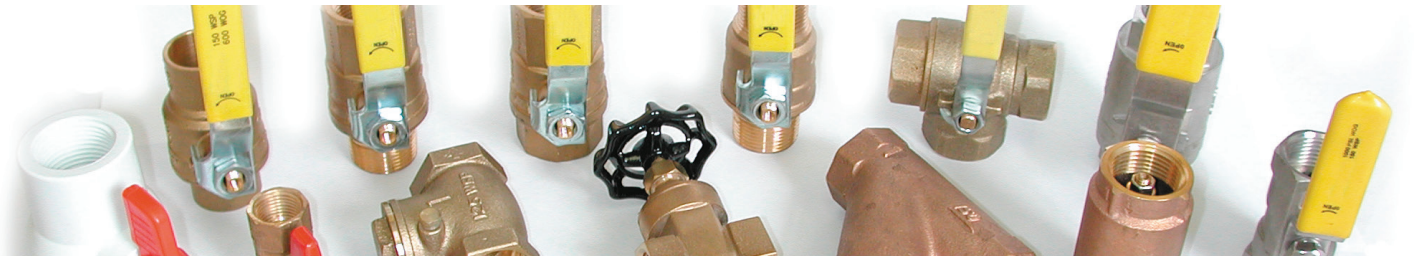
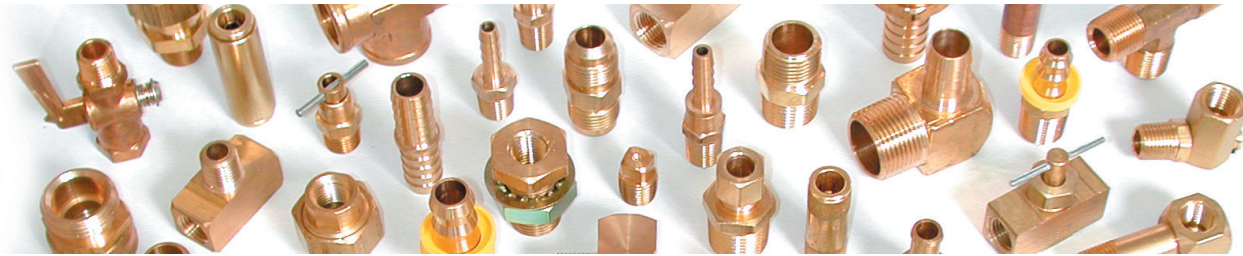


# ENERGY DESIGN CORP. CATALOG



# FIND WHAT YOU NEED

**TABLE OF CONTENTS PGS 2-3**

**PICTORIAL INDEX PGS 4-30**

**BRASS PGS 1-156**

**LEAD FREE PGS 157-175**

**DISPLAYS PGS 176-178**

**VALVES PGS 179-239**

**NIPPLES & FITTINGS PGS 240-329**

**PLASTIC PGS 330-344**

**HOSE ACCESSORIES PGS 345-396**

**CRIMPLOK PGS 397-415**

**CLAMPS PGS 416-436**

**TUBING PGS 437-443**

**PRESSURE WASHER 444-449**

**PNEUMATICS PGS 450-472**

**TRUCK & TRAILER PGS 473-494**

**HYDRAULICS PGS 495-539**

**STAINLESS STEEL ADAPTERS 540-555**

**NUMERICAL INDEX 556-594**



# TABLE OF CONTENTS

## BRASS FITTINGS

Pipe Fittings .....	1
Hose Barb Fittings.....	14
Push On Barb Fittings.....	30
Garden Hose Fittings.....	37
Sae 45° Flare.....	49
Inverted Flare Fittings .....	68
Compression Fittings .....	76



LEAD FREE .....	157-175
FITTING ASSORTMENTS AND DISPLAYS...	176-178

## VALVES

Lead Free Ball Valve.....	180
Italian Lead Free Brass Ball Valve .....	182
Midpex & Pex Ball Valves Lead Free.....	185
Forged Brass Ball Valve.....	186
Butterfly Handle Ball Valve .....	187
Nickel Plated Ball Valve.....	188
N/p Ball Valve W/ss Trim .....	189
Italian Ball Valve .....	190
Male X Female Brass Ball Valve.....	191
Italian Male X Female Ball Valve .....	192
Tee Handle Ball Valve - Male X Female .....	193
Locking Handle Ball Valves - Female X Male .....	194



## NIPPLES & FITTINGS

Brass Nipples.....	241
Bronze Fittings .....	249
Lead Free Brass Fittings .....	249
Stainless Steel Fittings.....	276
Black And Galvanized Steel Nipples.....	284
Merchant Couplings.....	302
Api Line Couplings .....	303
Malleable Fittings .....	304
Steel Fittings.....	314

## PLASTIC FITTINGS

Schedule 80 Pvc Nipples .....	331
Pipe-nylon Poly .....	333
Hose Barb .....	335
Garden Hose .....	339
Compression.....	340
Plastic Push-in Tube Fittings.....	341



## HOSE ACCESSORIES

Cam And Groove .....	346
Aluminum (Al) Spool & Part A .....	348
Combination Nipples .....	359
Combination Nipples .....	360
Hose Barb X Male Pipe .....	360
Victaulic Grooved .....	360



## CRIMPLOK

Aluminum Self Locking Cam & Groove .....	398
Stainless Steel Self Locking Cam & Groove .....	399
Ferrules .....	403
Sleeves .....	408

## HOSE CLAMPS

Worm Gear Clamps .....	417
Quick Release .....	421
T-bolt Clamps .....	422
Spring Loaded T-bolt .....	423



## TUBING

Polyurethane Nsf 51® .....	438
Polyethylene .....	439
Nylon 12 Tubing .....	441
Pvc Polyvinylchloride Tubing - Nsf61 .....	442

## HIGH PRESSURE SPRAYERS

Nozzles .....	445
Swivels .....	446
Sprayers .....	447
Quick Disconnects .....	448



## PNEUMATICS

Industrial Interchange .....	451
Universal Series Couplers .....	453
Aro 210 Interchange .....	454
Automotive/ Parker Interchange (Tru-flate) .....	455

## TRUCK AND TRAILER

Air Coils .....	473
Hose Support .....	474
Gladhands .....	477



## HYDRAULIC ADAPTERS & ACCESSORIES

Technical Information .....	496
Profile Size Chart .....	502
Steel Pipe Swivel Adapters .....	504
Straights Steel Jic Flare 37° .....	506

## STAINLESS STEEL ADAPTERS

Female Pipe Swivels .....	543
Jic 37° .....	544
Bulkhead Fittings .....	547
Pipe Fittings .....	548
Steel Pipe Fittings .....	549



# BRASS

## PICTORIAL INDEX

<b>BRASS FITTINGS PGS 1-169</b>	<b>PIPE PGS 1-13</b>	90° ELBOW  PG 2	90° FORGED EL  PG 2	45° ELBOW  PG 2	UNION TEE  PG 2	FGD TEE  PG 2	RED FRG TEE  PG 3	CROSS  PG 3
FORGED  PG 3	COUPLING  PG 3	RED COU-  PG 4	UNION  PG 4	CAP  PG 4	90° ST EL  PG 4	90° ST EL  PG 4	FORGE 90°  PG 5	FORGE RED  PG 5
HEX BUSHING  PG 5	FACE BUSHING  PG 6	SQ HEAD PLUG  PG 6	COUNTER-SUNK  PG 6	SLOTTED HEAD  PG 6	CORED HEX  PG 6	SOLID HEX  PG 7	LOCKNUT  PG 7	CLOSE NIPPLE  PG 7
LONG NIPPLE  PG 7	HEX NIPPLE  PG 8	RED HEX NIPPLE  PG 8	45° ST EL  PG 8	45° FORGE ST EL  PG 8	STREET TEE  PG 9	FORGED ST TEE  PG 9	EXTENDER  PG 9	FPT X MPT SWIVEL  PG 9
MPT X FPT SWIVEL  PG 9	90° MALE ELBOW  PG 10	BARSTOCK ELBOW  PG 10	90° RED EL-BOW  PG 10	MALE BRANCH T  PG 10	FGD BRANCH TEE  PG 10	ALL MALE T  PG 11	LONG ST EL  PG 11	LONG EX ADAPT  PG 11
FIP X MIP WYE  PG 11	MALE WYE N/P  PG 11	ALL FIP N/P WYE  PG 11	<b>BULK-HEAD FITTINGS PGS 12-13</b>	BULKHEAD FXF  PG 12	BULKHEAD FXM  PG 12	BULKHEAD FXM  PG 12	BULKHEAD FXM  PG 12	BULK TUBE X F  PG 12
FPXCLAMP-STUD  PG 12	MARINE BULK-HEAD  PG 12	STEEL BULK-HEAD  PG 13	STEEL BULK-HEAD  PG 13	STEEL BULK-HEAD  PG 13	STEEL BULK-HEAD  PG 13	STEEL BULK-HEAD  PG 13	STAINLESS BULKHEAD  13	STAINLESS BULKHEAD  13
<b>HOSE BARB PGS 15-22</b>	MALE ADAPTER  PG 15	BSPT ADAPTER  PG 16	SWL MALE ADPT  PG 16	SWL MALE ADPT  PG 16	MENDER/SPLICER  PG 16	FEMALE ADAPT  PG 17	FEMALE SWIVEL  PG 17	MALE SWIVEL  PG 17



# BRASS

## PICTORIAL INDEX

MALE SWIVEL  PG 17	GASKET  PG 18	HB 90° ELBOW  PG 18	BS 90° ELBOW  PG 19	TEE  PG 19	90° HB ELBOW  PG 19	FEMALE HB EL  PG 20	45° ELBOW  PG 20	CROSS  PG 20
BALL END  PG 21	BALLSEAT  PG 21	BALLSEAT  PG 21	45° FLARE  PG 21	DUAL FLARE  PG 22	DUAL FLARE  PG 22	FEM FLARE  PG 22	FEM FLARE  PG 22	JIC FLARE SWL  PG 22
<b>REUSE- ABLE FITTINGS PGS 23</b>	REUSABLE MALE  PG 23	REUSABLE STEMS  PG 23	REUSABLE SWIVELS  PG 23	REUSABLE FERRULES  PG 23	REUSABLE STEMS  PG 23	<b>FUEL HOSE PGS 24-25</b>	FUEL HOSE  PG 24	BUBBLE BARB  PG 24
INV FLARE CONN  PG 24	90° MALE ELBOW  PG 24	BUBBLE BARB  PG 24	SWL MALE ELBOW  PG 25	WELD CON- NECTOR  PG 25	WELD HOSE NUT  PG 25	HOSE CON- NECT  PG 25	<b>TUBE BARB PGS 26</b>	UNION SINGLE BARB  PG 26
MALE ADAPT- ER 1 BARB  PG 26	FEMALE ADAPTER  PG 26	BULKHEAD UNION  PG 26	UNION ELBOW  PG 26	MALE 90° ELBOW  PG 26	FEMALE 90° EL  PG 26	1 BARB TEE  PG 26	MALE BRANCH T  PG 26	FEMALE BRANCH T  PG 26
TWO BARB  PG 26	2 BARB TEE  PG 26	90° ELBOW 2 BARB  26	<b>SS. HOSE BARB PGS 27</b>	SS ADAPTER  PG 27	SS SPLICER  PG 27	SS BARB ELBOW  PG 27	#304 SS HOSE  PG 27	#304 RED NIPPLE  PG 27
#316 SS HOSE NIPPLE  PG 27	<b>BEVERAGE BARB PGS 28-29</b>	PIPE ADAPTER  PG 28	HOSE SPLICER  PG 28	BRASS SPLIC- ERS  PG 28	FLARE ADAPTER  PG 28	THINWALL SPLICERS  PG 28	TAILPIECE  PG 28	SWIVEL SETS  PG 28
PLUG  PG 28	TAILPIECE  PG 28	SWIVEL BARB  PG 28	COMPRES- SION  PG 28	90° ELBOW  PG 28	SWIVEL EL- BOW  PG 29	U-BEND  PG 29	HOSE TEES  PG 29	SWIVEL EL- BOW  PG 29

# BRASS

## PICTORIAL INDEX

<p>U-BEND</p>  <p>PG 29</p>	<p>THINWALL</p>  <p>PG 29</p>	<p>MALE ELBOWS</p>  <p>PG 29</p>	<p>CROSS</p>  <p>PG 29</p>	<p>BARB SPLICER</p>  <p>PG 29</p>	<p><b>PUSH-ON BARB PGS 31-36</b></p>	<p>MALE</p>  <p>PG 31</p>	<p>MALE SWIVEL</p>  <p>PG 31</p>	<p>FEMALE</p>  <p>PG 31</p>
<p>HOSE SPLICER</p>  <p>PG 32</p>	<p>FEMALE</p>  <p>PG 32</p>	<p>MALE ELBOW</p>  <p>PG 32</p>	<p>TUBE</p>  <p>PG 33</p>	<p>SAE FLARE</p>  <p>PG 33</p>	<p>37° JIC FLARE</p>  <p>PG 33</p>	<p>DUAL SEAL</p>  <p>PG 33</p>	<p>45° SAE FL</p>  <p>PG 2134</p>	<p>37° JIC FL SWL</p>  <p>PG 34</p>
<p>INV FLARE SWL</p>  <p>PG 34</p>	<p>FEMALE ADAPTER</p>  <p>PG 35</p>	<p>BALLSEAT SWIVEL</p>  <p>PG 35</p>	<p>FEMALE SWIVEL</p>  <p>PG 35</p>	<p>316 MALE ADPT</p>  <p>PG 36</p>	<p>FEMALE SWIVEL</p>  <p>PG 36</p>	<p>37° JIC FL SWL</p>  <p>PG 36</p>	<p><b>GARDEN HOSE PGS 37-47</b></p>	<p>SWL MGH X FGH</p>  <p>PG 38</p>
<p>SWL FGH X FGH</p>  <p>PG 38</p>	<p>FGH X FGH</p>  <p>PG 38</p>	<p>SWL FGH X FPIPE</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>RGD FGH X FPIPE</p>  <p>PG 38</p>	<p>RGD FGH X FPIPE</p>  <p>PG 38</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>
<p>DSHWSHR ELBOW</p>  <p>PG 39</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>	<p>RGD FGH X MPIPE</p>  <p>PG 39</p>	<p>RGD FEMALE PIPE</p>  <p>PG 40</p>	<p>RGD FEMALE PIPE</p>  <p>PG 40</p>	<p>RGD MALE PIPE</p>  <p>PG 40</p>	<p>RGD MGH X MGH</p>  <p>PG 40</p>	<p>GH NUT</p>  <p>PG 40</p>
<p>GH NUT</p>  <p>PG 40</p>	<p>GH WASHER</p>  <p>PG 41</p>	<p>GH WASHER</p>  <p>PG 41</p>	<p>GH FILTER WSHR</p>  <p>PG 41</p>	<p>GH CAP</p>  <p>PG 41</p>	<p>GH CAP W/ CHAIN</p>  <p>PG 41</p>	<p>GH PLUG</p>  <p>PG 41</p>	<p>MENDER</p>  <p>PG 42</p>	<p>QCK DISCON GH</p>  <p>PG 42</p>
<p>QCK DISCON GH</p>  <p>PG 42</p>	<p>MALE FL X FGH RGD</p>  <p>PG 42</p>	<p>MALE FL SWIVEL</p>  <p>PG 42</p>	<p>COMP X FGH</p>  <p>PG 42</p>	<p>COMP X MGH</p>  <p>PG 42</p>	<p>FEMALE SWIVEL</p>  <p>PG 43</p>	<p>SS FEMALE SWL</p>  <p>PG 43</p>	<p>MALE END</p>  <p>PG 43</p>	<p>SS MALE END</p>  <p>PG 43</p>
<p>GH COUPLING</p>  <p>PG 43</p>	<p>GH COUPLING</p>  <p>PG 43</p>	<p>FEMALE END</p>  <p>PG 44</p>	<p>MALE END</p>  <p>PG 44</p>	<p>GH COUPLING</p>  <p>PG 44</p>	<p>FEMALE SWL 2"</p>  <p>44PG 21</p>	<p>MALE END 2"</p>  <p>PG 44</p>	<p>GH COUPLING 2"</p>  <p>PG 44</p>	<p>FE. SHRT SHNK</p>  <p>PG 45</p>

# BRASS






































































## PICTORIAL INDEX

MALE SHRT  PG 45	SHRT SHNK  PG 45	FE. LONG  PG 45	M. LONG  PG 45	LONG SHNK  PG 45	FEMALE END  PG 46	BRASS BALL  PG 46	HOSE SHUT-  PG 46	PL. GH VALVE  PG 46
ZINC Y  PG 47	CAST WYE  PG 47	2-WAY SHUT-  PG 47	"Y" CONNec-  PG 47	SWL HOSE  PG 47	"Y" CONNec-  PG 47	BRASS  PG 48	CROSS PTRRN  PG 48	CROSS PTRRN  PG 48
SPRAY NOZZLE  PG 48	SPRAY NOZZLE  PG 48	SPRAY NOZZLE  PG 48	PL. SPRAY NOZZ  PG 2148	<b>FLARE PGS 49-60</b>	SHORT ROD NUT  PG 50	RED. SHRT ROD  PG 50	LONG ROD NUT  PG 50	LONG FRG. NUT  PG 51
SHORT FRG. NUT  PG 51	HVY. SHRT NUT  PG 51	FLARED PLUG  PG 52	FLARED CAP  PG 52	FNGR TIGHT. CAP  PG 52	COPPER GASKET  PG 52	COPPER BON-NET  PG 53	M BALL CHK CON  PG 53	UNION  PG 53
REDUCING UNION  PG 54	UNION TEE  PG 54	REDUCING TEE  PG 54	M. BRANCH TEE  PG 55	FE. ADAPTER  PG 55	MALE ADAPTER  PG 56	MALE ELBOW  PG 57	FEMALE ELBOW  PG 58	MALE RUN TEE  PG 58
FLARE CROSS  PG 59	ADAPTER TEE  PG 59	FLARE ELBOW  PG 59	45° ELBOW  PG 60	UNION  PG 60	FE. FL ADAPTER  PG 60	FL REDUCER  PG 60	FORGED SWIVEL  PG 61	SWIVEL EL-BOW  PG 61
FL X SWT  PG 61	<b>SPACE HEATER PG 61</b>	SPACE NUT  PG 62	HEATER MALE  PG 62	SPACE FE-MALE  62PG 21	HEATER UNION  PG 62	<b>GAS RANGE PG 62</b>	GAS MALE  PG 62	RANGE FE-MALE  PG 62
DRUM ADTR  62PG 21	RANGE CAP  PG 62	<b>POL PGS 63-65</b>	POL TEE  PG 63	TAILPIECE  PG 63	TAIL AND NUT  PG 63	POL CAP  PG 63	PLUG AND CHAIN  PG 63	ADAPTER  PG 63



# BRASS

## PICTORIAL INDEX

MALE  PG 63	TAILPIECE  PG 64	POL ADAPTER  PG 64	TAILPIECE  PG 64	POL ADAPTER  PG 64	HEX HEAD  PG 64	POL ADAPTER  PG 64	SOFT NOSE  PG 64	POL ADAPTER  PG 64
PROPANE  PG 65	DUST PLUG  PG 65	POL X MIP  PG 65	APPLIANCE  PG 65	FPT X POL  PG 65	APPLIANCE  PG 65	APPLIANCE  PG 65	O-RING  PG 65	DUAL APPLI-  PG 65
<b>37 FLARE PGS 66-67</b>	JIC UUNION  PG 66	JIC FE ADPT  PG 66	MALE ADAPTER  66	JIC SWIVEL  PG 66	90° ELBOW  PG 67	FE ELBOW  PG 67	45° ELBOW  PG 67	<b>INVERTED FLARE PGS 69-75</b>
CHROMATE NUT  PG 69	LONG STEEL NUT  PG 69	INVERTED FL NUT  69	METRIC TUBE NUT  PG 69	UNION INTERNAL  PG 70	FE. ADAPTER  PG 70	MALE ADAPTER  PG 70	ELBOW  PG 71	45° ELBOW  PG 71
UNION TEE  PG 71	STEEL PLUG  PG 72	M. BRANCH TEE  PG 72	FEMALE ELBOW  PG 72	MALE RUN TEE  PG 72	FE. BRANCH TEE  PG 73	TRAIL BRAKE TEE  PG 73	CYLINDER ADAPT  PG 73	CYLINDER ADAPT  PG 74
CARBURETOR  PG 74	RESTRICT. ADAPT  PG 74	SAE FL X INVERT  PG 75	METRIC ADAPTER  PG 75	ADAPT STANDARD  PG 75	METRIC UNION  PG 75	<b>COMPRESSION PG 77-85</b>	BRASS SLEEVE  PG 77	BRASS NUT  PG 77
UNION  77	REDUCING UNION  PG 78	TEE  PG 78	REDUCING TEE  PG 78	UNION ELBOW  PG 79	REDUCING ELBOW  PG 79	FE. ADAPTER  PG 79	MALE ADAPTER  PG 80	MALE ELBOW  PG 81
MALE ELBOW  PG 81	MALE RUN TEE  PG 82	M. BRANCH TEE  PG 83	M. BRANCH TEE  PG 83	FE. ELBOW  PG 82	FORGED TEE  PG 83	ADAPTER TEE  83	FE. BRANCH TEE  PG 84	45° ELBOW  PG 84

































































# BRASS

## PICTORIAL INDEX

CAP  PG 84	COMPRESS  PG 84	BULKHEAD  PG 85	CHECK VALVE  PG 85	TANK  PG 85	<b>DOUBLE COMP. PG 84</b>	DOUBLE COM-  PG 86	MALE  PG 86	90° ELBOW  PG 86
BREAK-AWAY  PG 86	<b>SPLIT SLEEVE PG 87</b>	SPLIT SLEEVE  PG 87	NUT  PG 87	DBL. END  PG 87	CONNECTOR  PG 87	ELBOW  PG 87	<b>COMP ASSEMBLIES PG 88</b>	DELRIN  PG 88
BRASS INSERT  PG 88	LONG NUT COMP  PG 88	SELF-ALIGN SLEEVE  PG 88	<b>CAPTIVE SLEEVE PG 89</b>	CAP SLEEVE NUT  PG 89	UNION  PG 89	MALE ADAPTER  PG 89	MALE ELBOW  PG 89	M. BRANCH TEE  PG 89
ANG. NEED. VALV.  PG 89	SLE. NEED. VALV.  PG 89	<b>FLARE-LESS PGS 91-94</b>	NUT PLS. SLEEVE  PG 91	UNION  PG 91	BULKHEAD UNION  PG 91	UNION TUBE  PG 91	BULKHEAD UNION  PG 91	UNION TEE  PG 92
FE. CONNecTOR  PG 92	M. CONNecTOR  PG 92	MALE ELBOW  PG 92	FEMALE ELBOW  PG 93	MALE RUN TEE  PG 93	M. BRANCH TEE  PG 93	FE. BRANCH TEE  PG 93	UNI NUT SLEEVE  PG 94	NUT  PG 94
PLASTIC SLEEVE  PG 94	<b>PUSH-IN FITTINGS PGS 97-</b>	<b>BRASS PUSH-IN PGS 97-101</b>	UNION CON-NECT  PG 97	UNION TEE  PG 97	UNION ELBOW  PG 97	FE. CONNecTOR  PG 97	M. CONNecTOR  PG 98	SWVL. M. ELBOW  PG 98
FIXED M. ELBOW  PG 99	FE. SWVL ELBOW  PG 99	FEMALE ELBOW  PG 99	SWVL M. RUN T  PG 100	FIXED M. RUN T  PG 100	SWVL M. BRANCH  PG 100	FIX M. BRANCH T  PG 100	UNION "Y"  PG 101	BULKHEAD UNION  PG 101
FE. BLKHD UNION  PG 101	REDUCER  PG 101	PLASTIC PLUG  PG 101	<b>N/P BRASS PUSH-IN PGS 103-106</b>	UNION CON-NECT  PG 103	UNION TEE  PG 103	UNION ELBOW  PG 103	FE. CONNecTOR  PG 103	FIXED M. ELBOW  PG 104

# BRASS

## PICTORIAL INDEX

MALE W/INT  PG 104	M. CONNec-  PG 104	SWVL. M.  PG 105	FE. SWVL  PG 105	SWVL. M.  PG 105	REDUCER  PG 106	UNION "Y"  PG 106	SWVL M.  PG 106	BULKHEAD  PG 106
<b>N/P VALVES PG 107</b>	PUSH-IN VALVE  PG 107	TUBE X MIP  PG 107	FIP MINI BALL  PG 107	MXF MINI BALL  PG 107	FIP ANGLE  PG 107	3-WAY MINI  PG 107	3_WAY MINI  PG 107	<b>METRIC N/P BRASS PGS 108-110</b>
BULKHEAD UNION  PG 108	UNION TEE  PG 108	UNION ELBOW  PG 108	UNION "Y"  PG 108	PLUG  PG 108	METRIC TUBE M.  PG 109	INTERNAL HEX  PG 109	METRIC TUBE ELB  PG 109	METRIC SWVL TEE  PG 110
METRIC SWVL TEE  PG 110	BULKHEAD  PG 110	<b>COM- POSITE PUSH-IN PGS 112-115</b>	UNION  PG 112	UNION TEE  PG 112	FE. CONNec- TOR  PG 112	90° UNION ELB.  PG 112	UNION "Y" CONN  PG 112	M. CONNec- TOR  PG 113
SW MALE ELBOW  PG 113	LONG PTTN M. EL  PG 113	FE. SWVL ELBOW  PG 114	45 SWIVEL ELL  PG 114	SWVL M. RUN T  PG 114	SWVL M. BRANCH  PG 114	BULKHEAD FE.  PG 115	BULKHEAD UNION  PG 115	SWIVEL "Y" CON  PG 115
METRIC TEENEEDLE VALVE  PG 115	FLOW CON- TROL  PG 115	FLOW CON- TROL  PG 115	<b>METRIC PUSH-IN PGS 116-118</b>	METRIC MALE  PG 116	METRIC EL- BOW  PG 116	METRIC TEE  PG 116	METRIC UNION  PG 116	METRIC TEE  PG 117
METRIC TEE  PG 117	METRIC SW ELBOW  PG 117	METRIC WYE  PG 118	METRIC SW WYE  PG 118	<b>DOT BRASS PUSH-IN PGS 120-125</b>	PLUG  PG 120	UNION  PG 120	UNION TEE  PG 120	UNION ELBOW  PG 120
FEMALE CONN  PG 121	MALE CON- NECTOR  PG 121	MALE ELBOW  PG 122	MALE SWL ELBOW  PG 122	FEMALE ELBOW  PG 123	FEMALE SWL EL  PG 123	MALE RUN TEE  PG 123	MALE SWL RUN T  PG 124	MALE 45° ELBOW  PG 124
















































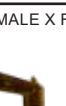
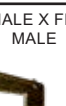





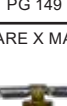






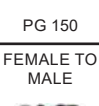
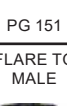
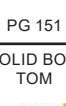
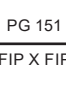
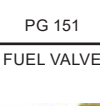
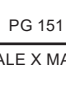

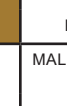
# BRASS

## PICTORIAL INDEX

<p>45° SWL EL-</p>  <p>PG 124</p>	<p>MALE BRANCH</p>  <p>PG 124</p>	<p>SWL BRANCH</p>  <p>PG 125</p>	<p>FEM BRANCH T</p>  <p>PG 125</p>	<p>BULK CON-</p>  <p>PG 125</p>	<p>BULKHEAD</p>  <p>PG 125</p>	<p>FEM BULK</p>  <p>PG 125</p>	<p><b>DOT COMP PUSH-IN PGS 127-130</b></p>		<p>STRAIGHT</p>  <p>PG 127</p>
<p>UNION TEE</p>  <p>PG 127</p>	<p>UNION 90° EL</p>  <p>PG 127</p>	<p>FEM CONNEC-</p>  <p>PG 127</p>	<p>MALE CON-</p>  <p>PG 128</p>	<p>90° MALE</p>  <p>PG 128</p>	<p>90° FEMALE EL</p>  <p>PG 128</p>	<p>MALE RUN TEE</p>  <p>PG 129</p>	<p>MALE BRANCH</p>  <p>PG 129</p>	<p>FEM BRANCH T</p>  <p>PG 129</p>	
<p>45° MALE ELBOW</p>  <p>PG 129</p>	<p>UNION "Y"</p>  <p>PG 130</p>	<p>MALE BRANCH "Y"</p>  <p>PG 130</p>	<p>BULKHEAD UNION</p>  <p>PG 130</p>	<p>FEM BULK CONN</p>  <p>PG 130</p>	<p><b>DOT FOR NYLON TUBE PG 132-135</b></p>		<p>SLEEVE</p>  <p>PG 132</p>	<p>NUT</p>  <p>PG</p>	<p>UNION</p>  <p>PG 132</p>
<p>BULKHEAD UNION</p>  <p>PG 132</p>	<p>SS INSERT</p>  <p>PG 132</p>	<p>BRASS INSERT</p>  <p>PG 132</p>	<p>TEE</p>  <p>PG 133</p>	<p>RED BRANCH TEE</p>  <p>PG 133</p>	<p>ELBOW</p>  <p>PG 133</p>	<p>FEMALE ADAPTER</p>  <p>PG 133</p>	<p>MALE ADAPTER</p>  <p>PG 134</p>	<p>SWL MALE ADPT</p>  <p>PG 134</p>	
<p>MALE ELBOW</p>  <p>PG 134</p>	<p>SWL MALE ELBOW</p>  <p>PG 134</p>	<p>FEMALE ELBOW</p>  <p>PG 134</p>	<p>MALE RUN TEE</p>  <p>PG 135</p>	<p>MALE BRANCH T</p>  <p>PG 135</p>	<p>FEM BRANCH T</p>  <p>PG 135</p>	<p>45° ELBOW</p>  <p>PG 135</p>	<p>SWL 45° EL-BOW</p>  <p>PG 135</p>	<p><b>DOT FOR COPPER PGS 136-137</b></p>	
<p>SLEEVE</p>  <p>PG 136</p>	<p>NUT</p>  <p>PG</p>	<p>UNION</p>  <p>PG 136</p>	<p>MALE ADAPTER</p>  <p>PG 137</p>	<p>90° MALE ELBOW</p>  <p>PG 137</p>	<p>MALE BRANCH T</p>  <p>PG 137</p>	<p><b>DOT FOR HOSE PGS 138-140</b></p>		<p>SLEEVE</p>  <p>PG 138</p>	<p>NUT</p>  <p>PG 138</p>
<p>NUT-USE SPRING</p>  <p>PG 138</p>	<p>SPRING</p>  <p>PG 139</p>	<p>NUT/SPRING</p>  <p>PG 139</p>	<p>UNION</p>  <p>PG 139</p>	<p>CONNECTOR HOSE</p>  <p>PG 139</p>	<p>MALE CON-NECTOR</p>  <p>PG 139</p>	<p>ADAPTER FOR SWL</p>  <p>PG 140</p>	<p>MALE ADAPTER</p>  <p>PG 140</p>	<p>ADAPTER BODY</p>  <p>PG 140</p>	
<p>MALE ADAPTER</p>  <p>PG 140</p>	<p><b>GREASE FITTINGS PGS 141-145</b></p>		<p>1/8 STR.</p>  <p>PG 141</p>	<p>BALL CHECK 1/8 LONG</p>  <p>PG 141</p>	<p>1/8" 30</p>  <p>PG 141</p>	<p>1/8" 45</p>  <p>PG 141</p>	<p>65° 1/8"</p>  <p>PG 141</p>	<p>90° 1/8"</p>  <p>PG 141</p>	<p>1/4 STR</p>  <p>PG 141</p>

# BRASS

## PICTORIAL INDEX

65° BALL  PG 142	SHORT 1/4-28  PG 142	LONG 1/4-28  PG 142	EXTRA LONG  PG 142	SHORT 45° BC  PG 142	SHORT 45° BC  PG 142	LONG 45° BC  PG 142	90° BALL  PG 142	DRIVE TYPE  PG 143
DRIVE TYPE  PG 143	6MM  PG 143	6MM 45°  PG 143	6MM 90°  PG 143	8MM  PG 143	8MM 45°  PG 143	8MM 90°  PG 143	10MM  PG 144	10MM 45°  PG 144
10MM 90°  PG 144	5/16"-24  PG 144	3/8" - 24  PG 144	BUTTON HEAD  PG 144	WHIP HOSE  PG 144	ADAPTERS  PG 145	ADAPTERS  PG 145	EXTENSIONS  PG 145	45° ANGLE  PG 145
90° ANGLE  PG 145	COUPLING  PG 145	BULKHEAD  PG 145	<b>DRAIN COCKS PGS 147-148</b>	GAS SHUT OFF  PG 147	DRAIN COCK  PG 147	TRUCK DRAIN  PG 147	SHUT OFF  PG 147	LEVER HANDLE  PG 147
AIR TANK VALVE  PG 147	INTERNAL SEAT  PG 148	INTERNAL SEAT  PG 148	LG INTERNAL SEAT  PG 148	TEE HANDLE  PG 148	EXT W/ SPOUT  PG 148	BIBB NEEDLE  PG 148	RADIATOR TYPE  PG 148	<b>SHUT OFF COCKS PG 149</b>
COMP X MALE  PG 149	COMP X COMP  PG 149	FEMALE X FEM  PG 149	MALE X FE-MALE  PG 149	MALE X MALE  PG 149	<b>NEEDLE VALVES PGS 150-151</b>	COMP X MALE  PG 150	COMP X M ANGLE  PG 150	COMP X COMP  PG 150
FLARE X MALE  PG 150	FLARE X MALE  PG 151	FLARE X FLARE  PG 151	AIR VENT  PG 151	MALE TO MALE  PG 151	F X F  PG 151	MALE X FE-MALE  PG 151	<b>TRUCK VALVES PG 152</b>	TRUCK VALVE  PG 152
FEMALE TO MALE  PG 152	FLARE TO MALE  PG 152	<b>SOLID BOTTOM VALVES PG 152</b>	SOLID BOT-TOM  PG 152	FIP X FIP  PG 152	FUEL VALVE  PG 152	MALE X MALE  PG 152	F X F  PG 152	MALE X FLARE  PG 152

**LEAD FREE**  
PICTORIAL INDEX

<b>MULTI PORT VALVES</b> PGS 153	3-WAY (SIDE)  PG 153	3-WAY (BOT-)  PG 153	4-WAY  PG 153	<b>MARINE VALVES</b> PG 154	ANTI-SIPHON  PG 154	ANTI-SIPHON  PG 154	ALUM ANTI-  PG 154	MXF ANTI-  PG 154
ALUM MXF  PG 154	ALUM BARB  PG 154	FL X MIP  PG 154	6-PORT  PG 154	<b>MINI BALL VALVES</b> PG 155	MINI BALL  PG 155	MALE X MALE  PG 155	PIPE X BARB  PG 155	F X F  PG 155
F X F  PG 155	F X F  PG 155	FNPT X FNPT  PG 155	MNPT X FNPT  PG 155	<b>PANEL MOUNT VALVES</b> PG 155	PANAL MOUNT  PG 155	F X F  PG 155	F X F  PG 155	<b>CHECK VALVES</b> PG 156
FIPXFIP BUNA-N  PG 156	M X F BUNA-N  PG 156	MNPT X MNPT  PG 156	FNPT X FNPT  PG 156	NPT X NPSM  PG156	F X F  PG 156	F X M  PG 156	M X F  PG 156	M X M CHECK  PG 156
<b>L/F PIPE</b> PGS 158-178	<b>BRASS PIPE</b> PGS 158-161	FGD ELL  PG 158	FGD TEE  PG 158	BS TEE  PG 158	BS 45  PG 158	BS ELL  PG 158	FACE BUSH  PG 159	SQ. HEAD  PG 159
CAP  PG 159	CROSS  PG 159	COUPLING  PG 159	BUSHING  PG 159	HEX PLUG  PG 159	CS PLUG  PG 159	UNION  PG 159	ST. ELL  PG 160	LONG ST  PG 160
HEX NIPPLE  PG 160	CL. NIPPLE  PG 160	ADAPTER  PG 160	NIPPLE  PG 160	DUAL SEAT  PG 161	MALE ADAPTER  PG 161	ALL MALE  PG 161	BS ELL  PG 161	MALE BRANCH  PG 161
MALE RUN  PG 161	<b>L/F HOSE BARB</b> PG 162	RIGID MALE ADAPTER  PG 162	FORGED HOSE BARB  162	MENDER/SPLICER  PG 162	RIGID FEMALE  PG 162	HOSE BARB  PG 162	FEMALE  PG 162	LF MINI BALL  PG 162





















# LEAD FREE

## PICTORIAL INDEX

<b>L/F GARDEN HOSE PGS 163</b>	MGH X MALE  PG 163	GARDEN HOSE  PG 163	FGH X MALE  PG 163	MGH X MGH  PG 163	BRASS CON-  163	SWIVEL  PG 163	MALE END  PG 163	FEMALE  PG 163
GARDEN HOSE  PG 163	RIGID  PG 163	SWIVEL  PG 163	FGH X MALE  PG 163	MGH X FE-  PG 163	<b>L/F FLARE PGS 164-165</b>	SHORT ROD  PG 164	SHORT FORGE  PG 164	UNION  PG 164
FLARED CAP  PG 164	TEE  PG 164	PLUG  PG 164	FEMALE ADAPTER  PG 165	MALE BRANCH TEE  PG 165	FORGED SWIVEL  165	MALE ADAPTER  PG 165	UNION ELBOW  PG 165	FIP BRANCH TEE  PG 165
90° MALE ELBOW  165	FEMALE ELBOW  PG 165	MALE RUN TEE  PG 165	<b>L/F COMPRESSION PGS 166-169</b>	BRASS SLEEVE  PG 166	NUT  PG 166	BRASS INSERT  PG 166	CAPTIVE SLEEVE NUT  PG 166	CAP  PG 166
UNION  PG 167	TANK UNION  PG 167	TEE  PG 167	UNION ELBOW  167	FEMALE ADAPTER  PG 167	COMP X SWEAT  PG 167	MALE ADAPTER  PG 168	MALE ELBOW  PG 168	TANK CON-NECTOR  PG 168
FEMALE ELBOW  PG 168	45 ELBOW  PG 168	MALE RUN TEE  PG 168	MALE BRANCH TEE  PG 169	COMPX FIP X MIP  PG 169	FIPXMIPX-COMP  PG 169	COMPX FIP TEE  PG 169	COMP X FE FL  PG 169	COMP X MALE FLARE  PG 169
COMP X FE COMP  PG 169	COMP X FE FLARE  PG 169	COMP X FE GDN HOSE  PG 169	COMP X FE GDN HOSE 90  PG 169	ADD-A-TEE  PG 169	<b>N/P COMPRESSION PGS 170</b>	NUT  PG 170	UNION  PG 170	RED UNION  PG 170
TEE  PG 170	UNION ELBOW  PG 170	FEMALE COU-PLING  PG 170	COMP X SWT  PG 170	MALE ADAPTER  PG 170	MALE ELBOW  PG 170	FEMALE ELBOW  PG 170	ICE MAKER KIT  PG 170	<b>NEEDLE VALVES PGS 171</b>

# VALVES

## PICTORIAL INDEX

COMP NEEDLE  PG 171	COMP X MIP  PG 171	COMP X M  PG 171	FL X FL NEE-  PG 171	FL X MIP  PG 171	FIP X FIP  PG 171	M X F PIPE  PG 171	MIP X MIP  PG 171	VALVE WITH  PG 171
VALVE W/  PG 171	SADDLE ONLY  PG 171	SADDLE VALVE  PG 171	<b>SUPPLY STOP CONNECTORS 172-174</b>	FIP X B/C SS  PG 172	STRAIGHT  PG 172	3/8 X FIP LAV  PG 172	3/8 X 3/8 LAV  PG 172	ANGLE SUP-  PG 172
3-WAY SUPPLY STOPS  PG 172	ICE MAKER SS CNCTR  PG 173	3/8 GDN HOSE SS CNCTR  PG 173	WATER HEATER CON-NECTOR  PG 173	WASHING MA-CHINE CNCTR  PG 173	CONNECTOR W/ELBOW  PG 173	PVC BALL-COCK CNCTR  PG 174	PVC LAV CON-NECTOR  PG 174	PVC LAV 3/8 COMP CNCTR  PG 174
<b>TRANSI-TION PGS 175</b>	CPVC SS MALE ADAPTER  PG 175	CPVC BRASS ADAPTER  PG 175	FEMALE ADAPTER CPVC  PG 175	CPVC DROP EAR BRASS  PG 175	CPVC SS MALE ADAPTER  PG 175	CPVC SS DROP EAR  PG 175	<b>DISPLAY UNITS PGS 176-178</b>	SS SIZE GUIDE  PG 178
FLARE SIZE GUIDE  PG 178	BINS 4 ACROSS  PG 177	BINS  PG 176-177	PACKAGE  PG 176-177	BINS 5 ACROSS  PG 177	PIPE SIZE GUIDE  PG 178	HOSE BARB SIZE GUIDE  PG 178	BINS 6 ACROSS  PG 177	BINS  176-177
SIZE GUIDE PIPE/COMP/FL  PG 178	COMP SIZE GUID  PG 178	PLASTIC SIZE GUIDE  PG 178	LABELS  PG 177	BAG AND TAG  PG 177	<b>VALVES PGS 179-239</b>	<b>L/F VALVES PGS 180-185</b>	LF BALL VALVE  PG 180	SWT X SWT  PG 180
FIP X FIP LF  PG 181	SWT X SWT LF  PG 181	LF ITALIAN  PG 182	SWT X SWT LF  PG 182	<b>L/F PLBG VALVES PGS 183-185</b>	LF GATE VALVE  PG 183	GATE VALVE CXC  PG 183	LF BRASS CHECK  PG 183	SWING CHECK  PG 183
CXC SWING CHK  PG 183	Y-STRAINER  PG 183	LF COPPER PRESS VALVE  PG 184	C/E PEX UNION BALL  PG 185	C/E PEX W/ DRAIN & DROP  PG 185	PEX BALL VALVE  PG 185	MIP X PROPEX  PG 185	PEX DRAIN VALVE  PG 185	<b>BALL VALVES PGS 186-196</b>

# VALVES

## PICTORIAL INDEX

FORGED  PG 186	LOCKING  PG 187	BUTTERFLY  PG 187	FXF NICKEL  PG 188	NP/SS TRIM  PG 189	ITALIAN BALL  PG 190	M X F  PG 191	ITALIAN M X F  PG 192	MXF TEE  193
FXM LOCKING  PG 194	SPRING  PG 195	RIGHT ANGLE  PG 195	3WAY NON-  PG 196	SAFETY EX-  PG 197	<b>GAS BALL VALVES PG 197</b>	GAS BALL  PG 197	FLARE X  PG 197	FLARE X MIP  PG 197
FLARE X FIP  PG 197	ITALIAN GAS BALL  PG 197	<b>MINI BALL VALVES PGS 198-201</b>	ITALIAN MINI BALL  PG 198	M X F  PG 198	MINI MXF BRASS  PG 198	FXF FLAG HANDLE  PG 199	LEVER HANDLE  PG 199	TEE HANDLE  PG 199
SCREW-DRIVER  PG 199	MXF FLAG  PG 200	LEVER HANDLE  PG 200	TEE HANDLE  PG 200	SCREW-DRIVER  PG 200	F X F MINI  201	F X M MINI  PG 201	M X M MINI  PG 201	BARB X MALE MINI  PG 201
BARB X FE-MALE  PG 201	BARB X BARB MINI  PG 201	<b>BRASS VALVES PGS 202-205</b>	3-WAY SIDE OUT  PG 202	3-WAY BOT-TOM  PG 202	STRAINER  PG 203	VACUUM BREAK  PG 203	RADIATOR AIR  PG 203	KEY ONLY  PG 203
SILCOCK  203	HOSE BIBBS  PG 203	GARDEN VALVE  PG 203	GATE VALVE  PG 204	QUICK OPEN-ING  PG 205	Y-STRAINER  PG 206	<b>CHECK VALVES PGS 207-209</b>	SWING CHECK  PG 207	Y-SWING CHECK  PG 207
CHECK VALVE  PG 208	IN LINE CHECK  PG 208	IN LINE CHECK  PG 209	<b>SS BALL VALVES PGS 210-214</b>	2000#  PG 210	316 SS 1-PC 1000 STD PORT  PG 211	316 SS 2-PC 1000 FP  PG 212	SS MINI  PG 213	SS M X F  PG 213
FXF BUTTER-FLY  PG 214	MXF BUT-TERFLY  PG 214	MXM BUT-TERFLY  PG 214	<b>CHECK PGS 215-219</b>	304 CHECK  PG 215	SS IN LINE  PG 216	FXF SPRING CHK  PG 217	MXF SPRING CHK  PG 217	Y-SPRING CHECK  PG 219

# NIPPLES AND FITTINGS





























## PICTORIAL INDEX

2PC BARREL  PG 218	SS SWING CHK  PG 219	SS GLOBE  PG 219	SS GATE  PG 219	<b>STEEL VALVES PGS 220-223</b>	STANDARD  PG 220	2PC FULL  PG 221	2 WAY  PG 222	3 WAY  PG 222
CHECK  PG 223	<b>PVC PGS 224-225</b> PG	PVC THREAD  PG 224	SLIP X SLIP  PG 224	FIP X FIP  PG 224	SLIP X SLIP  PG 224	IN-LINE CHECK  PG 225	FIP PVC  PG 225	DRUM FAUCET  PG 225
DRUM & BAR-REL  PG 225	<b>DUCTILE IRON PGS 227-236</b>	BUTTERFLY VALVE LEVER  PG 227	BUTTERFLY VALVE GEAR  PG 228	GEAR RE-PLACEMENT  PG 229	WHEEL  PG 229	EXTENSIONS  PG 229	ROLL PIN  PG 229	WAFER BUT-TERFLY  PG 230
CHECK VALVE UL  PG 231	CHECK  PG 231	CHECK  PG 232	GATE VALVE NO TAP  PG 233	GATE VALVE NRS RES.  PG 234	GATE VALVE DI  PG 235	GATE VALVE FL X MJ  PG 236	<b>FLANGE PGS 237-239</b>	COMP FLANGE THREAD  PG 237
COMPANION FLANGE  PG 238	METER COU-PLING  PG 239	FLANGE OVAL  PG 239	FLANGE OVAL  PG 239	<b>NIPPLES &amp; FITTINGS PGS 240-329</b>	<b>BRASS NIPPLES PGS 240-269</b>	SEAMLESS SCH 40  PG 244	CHROME PLATED  PG 248	<b>BRONZE FITTINGS PG 250-258</b>
<b>LEAD FREE BRONZE PG 250-258</b>	90° ELBOW  PG 250	90° REDUCE ELB  PG 250	90° STREET ELLS  PG 251	45° ELBOW  PG 251	45 ST ELBOW  PG 251	CROSS  PG 252	TEE  PG 252	REDUCING TEE  PG 253
REDUCING TEE  PG 253	COUPLING  PG 254	REDUCE COUP  PG 254	CAP  PG 255	UNION  PG 255	HEX LOCKNUT  PG 255	HEX BUSHING  PG 256	HEX BUSHING  PG 256	CNTRSUNK PLUG  PG 257
CORED PLUG  PG 257	SOLID PLUG  PG 257	HEX NIPPLE  PG 258	REDUCE HEX NIP  PG 258	LF COMPANION FLANGE  PG 258	LF SWT COMP FLANGE  PG 258	LF FLOOR FLANGE  PG 258	<b>CHROME PLATED PG 259-260</b>	C/P TEE  PG 259



# NIPPLES AND FITTINGS

## PICTORIAL INDEX

C/P CROSS  PG 259	C/P ST ELL  PG 259	C/P 45 ST ELL  PG 259	C/P COUPLING  PG 259	C/P ELL  259	C/P 45 ELL  PG 260	C/P UNION  PG 260	C/P CAP  PG 260	C/P BUSHING  PG 260
C/P PLUG  PG 260	<b>USA L/F BRONZE PG 261-266</b>	USA ELBOW  PG 261	RED ELL  PG 261	USA 45 ELL  PG 261	DROP ELL  PG 261	ST ELL  PG 261	TEE  PG 262	45 ST ELL  PG 262
CROSS  PG 262	STREET TEE  PG 263	REDUCER  PG 263	COUPLING  PG 263	45 Y BRANCH  PG 263	BUSHING  PG 264	CAP  PG 264	CS PLUG  PG 264	UNION  PG 264
EH ELBOW  PG 265	PLUG  PG 265	EH ST ELBOW  PG 265	EH 45 ELBOW  PG 265	SOLID PLUG  PG 265	EH CROSS  PG 266	EH UNION  PG 266	EH CAPS  PG 266	EH COUPLING  PG 266
EH TEE  PG 266	<b>CLEANOUT PLUGS PG 267</b>	CLEANOUT PLUG  PG 267	CS C/O PLUG  267	C/O PLUG W/ TAP  PG 267	<b>DROP EAR ELBOWS PG 267</b>	BRONZE D/E  PG 267	SWT X SWT  PG 267	PEX X FIP  267
<b>BRASS INSERTS PGS 268</b>	BARB FOR PL PIPE  PG 268	BRONZE TEE BARB  PG 268	 268	UNION 90  PG 268	<b>STEEL INSERTS PG 268</b>	STEEL INSERT  PG 268	REDUCER  PG 268	UNION  PG 268
<b>SS INSERTS PG 269</b>	SS MALE ADAPTER  PG 269	SS 90 ELBOW  PG 269	<b>L/F INSERTS PG 269</b>	LF UNION  PG 269	LF MALE BRANCH  PG 269	LF UNION ELBOW  PG 269	<b>WELL COUPLINGS PG 269</b>	SS DROP WELL  PG 269
SS HEAVY CPLG  PG 269	SS MERCHANT  PG 269	<b>SS NIPPLES PG 273-275</b>	304 SCH 40 WELDED  PG 273	316 SCH 40 WELDED  PG 273	<b>SS FITTINGS PG 277-283</b>	90° ELBOW  PG 277	90° STREET ELB.  PG 277	45° STREET ELB.  PG 277



































# NIPPLES AND FITTINGS

## PICTORIAL INDEX

<p>TEE</p>  <p>PG 278</p>	<p>CROSS</p>  <p>PG 278</p>	<p>HEX NIPPLE</p>  <p>PG 278</p>	<p>REDUCE HEX</p>  <p>PG 278</p>	<p>COUPLING</p>  <p>PG 279</p>	<p>REDUCE COUP</p>  <p>PG 279</p>	<p>MACHINED</p>  <p>PG 279</p>	<p>HALF COU-</p>  <p>PG 280</p>	<p>UNION</p>  <p>PG 280</p>			
<p>CAP-CAST</p>  <p>PG 280</p>	<p>HEX CAP-</p>  <p>PG 280</p>	<p>HEX BUSHING</p>  <p>PG 281</p>	<p>HEX LOCKNUT</p>  <p>PG 282</p>	<p>HEX SOCKET</p>  <p>PG 283</p>	<p>CORED PLUG</p>  <p>PG 282</p>	<p>SOLID PLUG</p>  <p>PG 283</p>	<p>SOLID HEX</p>  <p>PG 283</p>	<p>CORED HEX</p>  <p>PG 282</p>			
<p>HOSE NIPPLE</p>  <p>PG 282</p>	<p>REDUCING</p>  <p>PG 283</p>	<p><b>STEEL NIPPLES</b> PG 250-264</p>		<p>SCH 40 GALVA-NIZED</p>  <p>PG 288</p>	<p>SCH 40 BLACK</p>  <p>PG 288</p>	<p>ASSORT-MENTS</p>  <p>PG 292</p>	<p>TOTE TRAYS</p>  <p>PG 292</p>	<p>SCH 80 SEAM-LESS</p>  <p>PG 293</p>	<p>XXS SEAM-LESS</p>  <p>PG 299</p>		
<p><b>GROOVE NIPPLES</b> PG 265-266</p>		<p>THREAD X GROOVE</p>  <p>PG 300</p>	<p>GROOVE X GROOVE</p>  <p>301</p>	<p><b>MERCHANT COUPLINGS</b> PG 267-268</p>		<p>MERCHANT COUP</p>  <p>PG 302</p>	<p>MERCHANT COUP</p>  <p>302</p>	<p>HALF MECHANT C</p>  <p>PG 302</p>	<p>API LINE COUP</p>  <p>PG 303</p>	<p><b>MALLEABLE FITTINGS</b> PG 269-278</p>	
<p>90° ELBOW GALV</p>  <p>PG 305</p>	<p>90° ELB. BLACK</p>  <p>PG 305</p>	<p>REDUCE ELBOW</p>  <p>PG 305</p>	<p>REDUCE ELBOW</p>  <p>PG 305</p>	<p>GALV ST. ELBOW</p>  <p>PG 305</p>	<p>BLK. ST. EL-BOW</p>  <p>PG 305</p>	<p>45° GALV ELBOW</p>  <p>PG 306</p>	<p>45° BLK. EL-BOW</p>  <p>PG 306</p>	<p>45° GALV ST. ELB</p>  <p>PG 306</p>			
<p>45° BLK. ST. ELB</p>  <p>PG 306</p>	<p>GALV CROSS</p>  <p>PG 306</p>	<p>BLACK CROSS</p>  <p>PG 306</p>	<p>GLAV TEE</p>  <p>PG 307</p>	<p>BLACK TEE</p>  <p>PG 307</p>	<p>GALV REDUCE T</p>  <p>PG 307</p>	<p>BLK. REDUCE T</p>  <p>PG 307</p>	<p>BULLHEAD TEE</p>  <p>PG 308</p>	<p>BLK. BLKHD TEE</p>  <p>PG 308</p>			
<p>REDUCING TEE</p>  <p>PG 308</p>	<p>MALL SERVICE T</p>  <p>PG 308</p>	<p>MALL SERVICE T</p>  <p>PG 308</p>	<p>GALV OUT TEE</p>  <p>PG 308</p>	<p>BLK. OUT TEE</p>  <p>PG 308</p>	<p>GALV COU-PLING</p>  <p>PG 309</p>	<p>BLK. COU-PLING</p>  <p>PG 309</p>	<p>GALV RED COUP</p>  <p>PG 309</p>	<p>BLK. RED COUP</p>  <p>PG 309</p>			
<p>INSIDE HEX</p>  <p>PG 310</p>	<p>BLK. HEX BUSH</p>  <p>PG 310</p>	<p>GALV HEX BUSH</p>  <p>PG 310</p>	<p>GALV UNION</p>  <p>PG 311</p>	<p>BLACK UNION</p>  <p>PG 311</p>	<p>GALV SQR PLUG</p>  <p>PG 311</p>	<p>BLK SQR PLUG</p>  <p>PG 311</p>	<p>GALV CAP</p>  <p>PG 311</p>	<p>BLACK CAP</p>  <p>PG 311</p>			














































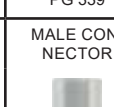
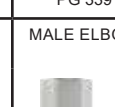
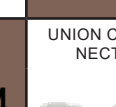
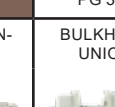
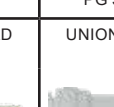
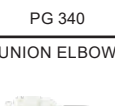
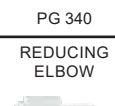
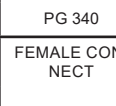
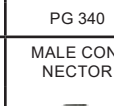
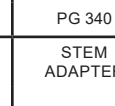
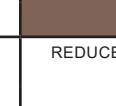

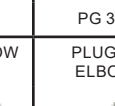
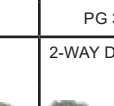
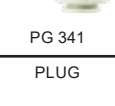
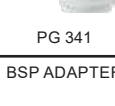
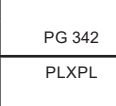
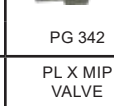
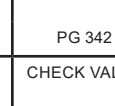
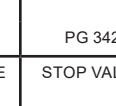
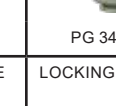
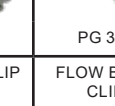
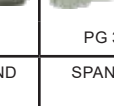
# NIPPLES AND FITTINGS

## PICTORIAL INDEX

LATERAL Y  PG 312	LOCKNUTS  PG 312	COUPLING  PG 312	OUTLET  PG 312	GALV FLR  PG 313	BLK FLR  PG 313	EXTENSION  PG 313	SHROOM CAP  PG 313	<b>STEEL FITTINGS</b> PG 314-315
GALV HEX  PG 314	BLK HEX BUSH  PG 314	GALV CAP  PG 314	BLK CAP  PG 314	GALV FACE  PG 314	BLK FACE  PG 314	GALV SQR  PG 315	BLK SQR PLUG  PG 315	
BLK HEX PLUG  PG 315	GALV CS PLUG  PG 315	BLK CS PLUG  PG 315	CS HEX  PG 315	BLK CS PLUG  PG 315	<b>300# MALLEABLE</b> PG 316-317	90° ELBOW  PG 316	45° ELBOW  PG 316	90° ST ELBOW  PG 316
TEE  PG 316	COUPLING  PG 316	REDUCE COUP  PG 317	CAP  PG 317	UNION  PG 317		MAG DRAIN PLUG  PG 317	<b>BULL PLUGS &amp; SWAGES</b> PG 318-319	BULL PLUG  PG 318
SCH 40 SWAGE  PG 318	HEX SWAGE  PG 319	SCH 80 SWAGE  PG 319	XXH SWAGE  PG 319	<b>STEEL FLANGES</b> PG 320-321	SLIP-ON  PG 320	THREADED  PG 320		WELD NECK FLNG  PG 321
<b>HAMMER UNION</b> PG 322	1,000 PSI HAMMER UNION  PG 322	2,000 PSI HAMMER UNION  PG 322	CRIMPLOK HAMMER UNION  PG 322		<b>COPPER FITTINGS</b> PG 324-329	90° EL CXC  PG 324	90° ST EL FTG X C  PG 324	90° LONG TURN  PG 324
	45° EL CXC  PG 325	45° ST FTG X C  PG 325	COUPLING  PG 325	COUPLING  PG 325		COUPLING  PG 326	REDUCER W/ STOP  PG 326	FITTING REDUCER  PG 326
FEMALE ADAPTER  PG 328	FTG X F ADAPTER  PG 328	CAP  PG 328	UNION C X C  PG 328	U-TYPE STRAP  PG 328	TEE  PG 329	<b>PLASTIC FITTINGS</b> PG 330-344	<b>PIPE</b> PG 295-297	<b>PVC NIPPLES</b> PG 331-332

# PLASTIC

## PICTORIAL INDEX

ELBOW  PG 333	TEE  PG 333	STREET  PG 333	STREET  PG 333	HEX HEAD  PG 333	HEX HEAD  PG 333	HEX BUSHING  PG 334	HEX BUSHING  PG 334	HEX NIPPLE  PG 334
HEX NIPPLE  PG 334	RED NIPPLE  PG 334	RED NIPPLE  PG 334	COUPLING  PG 335	COUPLING  PG 335	PIPE CAP  PG 335	PLASTIC BULK-  PG 335	<b>HOSE BARB PG 335-338</b>	MALE  PG 335
MALE ADAPTER  PG 336	HOSE X MALE 90°  PG 336	HOSE X MALE 90°  PG 336	UNION ELBOW  PG 337	SPLICER  PG 337	SPLICER  PG 337	RED SPLICER  PG 337	RED SPLICER  PG 337	BARBED TEE  PG 338
BARBED TEE  PG 338	BARBED Y  PG 338	BARBED Y  PG 338	REDUCING TEE  PG 338	REDUCING TEE  PG 338	M BRANCH TEE  PG 338	<b>GARDEN HOSE PG 339</b>	GH CAP  PG 339	GH NUT  PG 339
GH ADPT INSERT  PG 339	GH THREAD ADPT  PG 339	MGH X F  PG 339	FGH X M  PG 339	FGH X F  PG 339	MGH X M  PG 339	<b>COMPRESSION PG 340</b>	UNION CON- NECTOR  PG 340	BULKHEAD UNION  PG 340
UNION TEE  PG 340	UNION ELBOW  PG 340	FEMALE CON- NECT  PG 340	MALE CON- NECTOR  PG 340	MALE ELBOW  PG 340	<b>PUSH-IN PG 341-344</b>	UNION CON- NECT  PG 341	BULKHEAD UNION  PG 341	UNION TEE  PG 341
UNION ELBOW  PG 341	REDUCING ELBOW  PG 341	FEMALE CON- NECT  PG 342	MALE CON- NECTOR  PG 342	STEM ADAPTER  PG 342	REDUCER  PG 342	FIXED ELBOW  PG 342	PLUG-IN ELBOW  PG 343	2-WAY DIVIDER  PG 343
PLUG  PG 343	BSP ADAPTER  PG 343	PLXPL  PG 343	PL X MIP VALVE  PG 343	CHECK VALVE  PG 344	STOP VALVE  PG 344	LOCKING CLIP  PG 344	FLOW BEND CLIP  PG 344	SPANNER  PG 344







































































# HOSE ACCESSORIES

## PICTORIAL INDEX

STOP VALVE  PG 344	SLIP TEE  PG 344	<b>HOSE ACCESSORIES PG 305-315</b>	<b>ALUMINIUM CAM &amp; GROOVE PG 306-307</b>	MADPT X F  PG 346	FEMALE COU-  PG 346	HOSE SHANK  PG 346	FEMALE COU-  PG 346	HOSE SHANK E  PG 347
MALE ADAPTER  PG 347	DUST CAP DC  PG 347			DUST CAP DP  PG 347	SPOOL  PG 348	MALE ADAPT-  PG 348	SWIVELA  PG 348	FEMALE COU-  PG 348
REDUCER D  PG 349	FEMALE COU- PLER D  PG 349	FEMALE COU- PLER DD  PG 349	SWIVEL D  PG 349	MALE ADAPT- ER F  PG 349	<b>POLYPROPYLENE CAM &amp; GROOVE PG 350-351</b>	MALE ADAPT- ER A  PG 350	FEMALE COU- PLER B  PG 350	HOSE SHANK C  PG 350
FEMALE COU- PLER D  PG 350	M X HOSE SHANK E  PG 351	MALE ADAPT- ER F  PG 351	DUST CAP DC  PG 351	DUST PLUG DP  PG 351		<b>STAINLESS STEEL CAM &amp; GROOVE PG 352-354</b>	FEMALE ADAPTER A  PG 352	FEMALE COU- PLER B  PG 352
FEMALE COU- PLER D  PG 352	HOSE SHANK E  PG 353	MALE ADAPT- ER F  PG 353	DUST CAP DC  PG 353	DUST PLUG DP  353	SS ADAPTER  PG 354		SS COUPLER DD  PG 354	SS DA  PG 354
<b>BRASS CAM &amp; GROOVE PG 355-356</b>	MALE ADAPT- ER A  PG 355	FEMALE COU- PLER B  PG 355	HOSE SHANK C  PG 355	FEMALE COU- PLER D  PG 355	HOSE SHANK E  PG 356	MALE ADAPT- ER F  PG 356	DUST CAP DC  PG 356	DUST CAP DP  PG 356
	SS HANDLE  PG 357	<b>BRASS HANDLE</b>  PG 357	BUNA-N GAS- KET  PG 358	SAFETY CLIP  PG 357	SILICONE GASKET  PG 358	VITON GASKET  PG 358	<b>KING NIPPLES PG 359-361</b>	HOSE NIPPLE STEEL  PG 359
REDUCER/EX- PANDER  PG 359	316 SS  PG 359		BRASS  PG 360	ALUMINUM  PG 360	STEEL VIC- TAULIC  PG 360	PLATED GROOVED  360		HOSE MENDER STEEL  PG 361






































































# HOSE ACCESSORIES

## PICTORIAL INDEX

BRASS  PG 361	<b>UNIVERSAL GROUND JOINT</b> PG 362-364	UNIVERSAL  PG 362	WASHER  PG 362	FEMALE NPT  PG 362	HOSE END  PG 362	TRIPLE CON-  PG 362	GROUND  PG 363	HOSE STEM  PG 363
WING NUT  PG 363	F SPUT ONLY  PG 363	M NPT STEM  PG 364	BOLT CLAMP  PG 364	STEEL HOSE  PG 364	ALUMINUM  PG 364	<b>STRAINERS</b> PG 365	SAFETY  PG 365	FOOT VALVE  PG 365
ROUND STRAINER  PG 365	LONG STRAINER  PG 365	BOTTOM STRAINER  PG 365	BOTTOM HOLE  PG 365	FOG NOZZLE  PG 365	<b>FIRE HOSE FITTINGS</b> PG 366	FIRE HOSE  PG 366	FXM HEX ADPT  PG 366	DBL M HEX NIP  PG 366
M SWL ADAPTER  PG 366	BRASS CAP  PG 366	NOZZLE  PG 366	<b>BUCHANAN HOSE</b> PG 374-395	CLEAR BRAID  PG 374	JACK HAMMER  PG 375	JACK HAMMER  PG 375	HOT AIR BLOWER  PG 375	JACK HAMMER  PG 375
GENERAL PUR- POSE  PG 376	GENERAL PUR- POSE  PG 376	MARINE EX- HAUST  PG 377	PUSH-ON  PG 377	FUEL LINE  PG 378	ARI SUCTION  PG 378	IND VACUUM  PG 379	BULKMASTER SOFTWALL  PG 379	EPDM SUC- TION  PG 380
SANDBLAST  PG 380	FLEXLITE  PG 381	FLEXCHEM  PG 381	TANK TRUCK  PG 382	FLEXLITE  PG 382	TANK TRUCK  PG 383	OIL VACUUM  PG 383	TANK TRUCK 300  PG 384	OIL VACUUM  PG 384
FRAZLINE 400  PG 385	PETRO DIS- CHARGE  PG 385	HOT TAR  PG 386	PETRO DIS- CHARGE  PG 386	PETRO DIS- CHARGE  PG 387	STEAM 250 BLACK  PG 387	STEAM 250  PG 388	BLUE LAYFLAT  PG 389	BLUE ASSEM- BLY  PG 389
BROWN LAY- FLAT  PG 390	DURAFLEX  PG 391	DURAFLEX  PG 391	HIGH PRES- SURE  PG 392	HIGH PRES- SURE  PG 392	SATURN OLIVE  PG 393	SATURN GREEN  PG 393	SATW  PG 394	SAT  PG 394






















# HOSE CLAMPS

## PICTORIAL INDEX

 WATER SUC- PG 395	 SUPERFLEX PG 395	 <b>CRIMPLOK</b> <b>PG 366</b>	 ALUM DC PG 398	 ALUM B PG 398	 ALUM D PG 398	 ALUM C PG 398	 SS B PG 399	 SS D PG 399		
 SS DC PG 399	 SS C PG 399	 ALUM C PG 400	 ALUM C AND E PG 400	 SS CRIMPLOK PG 400	 CRIMP CAMS PG 400	 CRIMP KING PG 401	 CRIMP KING PG 401	 CRIMP COMBO PG 401		
 CRIMP KING 401	 SQUARE CUT PG 402	 SS FLANGE NIPPLE PG 402	 VICTAULIC PG 402	<b>CRIMPLOK FERRULES</b> <b>PG 403-415</b>		<b>HOSE CLAMPS</b> <b>PG 417-436</b>		 MINI WORM GEAR PG 417-420	 WORM GEAR CLAMP PG 417-420	 QUICK RE- LEASE PG 421
 M6S MAXI LIGHT PG 422	 T-BOLT CLAMPS PG 422	 M6 MAXI PG 423	 MKL MEGA-K- LAMP PG 423	 M8 MAXI PG 424	 M10 MAXI HEAVY PG 424	 M8S STD MAXI PG 424	 T-BOLT SPRING LDD PG 425	 V-BAND PG 426		
 CONSTANT TORQUE PG 426	 HEAVY DUTY PG 427	 DOUBLE BOLT PG 427	 SC SPIRAL PG 428	 M10DC MAXI PG 428	 GUILLOTINE PG 429	 SADDLE PG 429	 FLAT PG 429	 LAP PG 430		
 BUTT PG 430	 EXHAUST PG 430	 EASY FORM PG 430	 1-EAT PG 431	 HAMMERLOCK PG 432	 2-EAR PG 432	 GAPLESS PG 432	 SIDE JAW PG 433	 PINCERS PG 433		
 CRIMPER PG 433	 LOKING TOOL PG 433	 LOKING TOOL PG 433	 MARINE EM- BOSSED PG 434	 MINI CLAMPS SS PG 434	 MINI ALUZINC PG 434	 LINED CLAMPS PG 434	 VINYL COATED PG 435	 RUBBER LINED PG 435		
 HOSE FERRULE-SS PG 436	<b>TUBING</b> <b>PG 440-443</b>		 POLYURE- THANE PG 440	 BLACK PG 440	 BLUE PG 440	 RED PG 440	 POLYETHYL- ENE PG 440	 BLACK POLY PG 440	 GREEN POLY PG 440	

# PRESSURE WASHER/ PNEUMATICS





























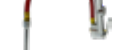






## PICTORIAL INDEX

<p>BLUE POLY</p>  <p>PG 440</p>	<p>RED POLY</p>  <p>PG 441</p>	<p>NYLON 12</p>  <p>PG 442</p>	<p>PVC</p>  <p>PG 442</p>	<p>MINITUBING CUT</p>  <p>PG 442</p>	<p>TUBING CUT-TER</p>  <p>PG 442</p>	<p>PLASTIC TUBE CUT</p>  <p>PG 442</p>	<p>MOUNTING RACK</p>  <p>PG 443</p>	<p>ALUMINUM</p>  <p>PG 443</p>		
<p>COPPER TUBE</p>  <p>PG 443</p>	<p>SOFT COPPER</p>  <p>PG 443</p>	<p><b>PRESSURE WASHER PGS 445-449</b></p>		<p>QD NOZZLE</p>  <p>PG 445</p>	<p>MEG NOZZLE</p>  <p>PG 445</p>	<p>RUBBER TIP</p>  <p>PG 446</p>	<p>SS LIVE SWIVEL</p>  <p>PG 446</p>	<p>THERMAL RELIEF</p>  <p>PG 446</p>	<p>BOOM SWIVEL</p>  <p>PG 447</p>	
<p>WAND</p>  <p>PG 447</p>	<p>SPRAY GUN</p>  <p>PG 447</p>	<p>GUN W/EXT</p>  <p>PG 448</p>	<p>MALE STEEL PLUG</p>  <p>PG 448</p>	<p>FE. STEEL PLUG</p>  <p>PG 449</p>	<p>MOLDED GRIP</p>  <p>PG 449</p>	<p>MOLDED GRIP FE</p>  <p>PG 449</p>	<p><b>PNEUMATICS PG 450-472</b></p>		<p><b>QUICK DISCONNECTS PGS 451-452</b></p>	
<p>INDUSTRIAL INTERCHANGE</p>  <p>PG 451</p>	<p>BRASS M. COUP</p>  <p>PG 451</p>	<p>STEEL FE. COUP</p>  <p>PG 451</p>	<p>STEEL M. COUP</p>  <p>PG 451</p>	<p>BR. HOSE COUP</p>  <p>PG 451</p>	<p>STL. HOSE COUP</p>  <p>PG 451</p>	<p>BR. PUSH-ON</p>  <p>PG 452</p>	<p>STL PUSH-ON</p>  <p>PG 452</p>	<p>STEEL M. PLUG</p>  <p>PG 452</p>		
<p>STEEL FE. PLUG</p>  <p>PG 452</p>	<p>BRASS M. PLUG</p>  <p>PG 452</p>	<p>STL HOSE PLUG</p>  <p>PG 452</p>	<p>PUSH-ON PLUG</p>  <p>PG 452</p>	<p>STL SWL M. PLUG</p>  <p>PG 452</p>	<p><b>UNIVERSAL QD PGS 453</b></p>		<p>UNIVERSAL SERIES</p>  <p>PG 453</p>	<p>BRASS FE. COUP</p>  <p>PG 453</p>	<p>BR. HOSE COUP</p>  <p>PG 453</p>	
<p>SS M. COU-PLER</p>  <p>PG 453</p>	<p>SS FE. COU-PLER</p>  <p>PG 453</p>	<p>SS MALE PLUG</p>  <p>PG 453</p>	<p>SS FE. PLUG</p>  <p>PG 453</p>	<p><b>ARO QD PG 454</b></p>		<p>ARO 210</p>  <p>PG 454</p>	<p>FEMALE COU-PLER</p>  <p>PG 454</p>	<p>HOSE ID COUP</p>  <p>PG 454</p>	<p>MALE PLUG</p>  <p>PG 454</p>	
<p>FEMALE PLUG</p>  <p>PG 454</p>	<p>HOSE ID PLUG</p>  <p>PG 454</p>	<p><b>AUTO QD PGS 455-456</b></p>		<p>AUTO INTER-CHANGE</p>  <p>PG 455</p>	<p>BR. FE. COU-PLER</p>  <p>PG 455</p>	<p>STL. M. COU-PLER</p>  <p>PG 455</p>	<p>STL. FE. COU-PLER</p>  <p>PG 455</p>	<p>BR. MALE PLUG</p>  <p>PG 455</p>	<p>BR. FE. PLUG</p>  <p>PG 455</p>	
<p>STEEL MALE PLUG</p>  <p>PG 455</p>	<p>STEEL FE. PLUG</p>  <p>PG 456</p>	<p>HOSE ID COUP</p>  <p>PG 456</p>	<p>PUSH-ON COUP</p>  <p>PG 456</p>	<p>HOSE ID PLUG</p>  <p>PG 456</p>	<p>PUSH-ON PLUG</p>  <p>PG 456</p>	<p><b>LINCOLN QD PG 456</b></p>		<p>LINCOLN</p>  <p>PG 456</p>	<p>FEMALE COU-PLER</p>  <p>PG 456</p>	
























































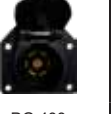















# PNEUMATICS

## PICTORIAL INDEX

STEEL MALE  PG 456	STEEL FE.  PG 456	<b>MISC QD</b> <b>PG 457</b>	HIGH FLOW  PG 457	FEMALE COU-  PG 457	MALE PLUG  PG 457	FEMALE PLUG  PG 457	MOLD COOL-  PG 457	FEMALE PLUG  PG 457
MINI QD  PG 457	FE PLUG  PG 457	<b>MUFFLERS/ BREATHERS</b> <b>PG 458-460</b>	BR. MUFFLER  PG 458	STAINLESS  PG 458	BR. BREATH  PG 458	STLS BREATH  PG 458	PSI SNUBBER  PG 458	SPEED VALVE  PG 459
SPEED VALVE  PG 459	MUFF W/ FLOW  PG 459	HI FLOW MUFF  PG 459	HI FLOW MUFF  PG 459	HI FLOW MUFF  PG 459	HI FLOW MUFF  PG 459	NIP INLINE FILTER  PG 459	RPR AIR/OIL FILTER  459	CP BRASS MANIFOLD  PG 460
AIR REGULA- TOR  PG 460	MANIFOLD  PG 460	AIR MANIFOLD  PG 460	<b>SAFETY VALVES</b> <b>PG 461</b>	SAFETY VALVES  PG 461	SAFETY VALVES  PG 461	CHECK VALVE  PG 461	CHECK VALVE  PG 461	<b>TANK VALVES</b> <b>PG 462</b>
BIKE PUMP FIT  PG 462	INFLATOR  PG 462	SLIDE VALVE  PG 462	SPRING CORE  PG 462	SPRING CORE  PG 462	SPRING CORE  PG 462	BLK PLASTIC CAP  PG 462	DOME CAP  462	<b>BLOW GUNS</b> <b>PG 463</b>
CPCT BLOW GUN  PG 463	SAFE BLOW GUN  PG 463	SAFE BLOW GUN  PG 463	CPCT BLOW GUN  PG 463	PISTOL BLOW GUN  PG 463	PISTOL BLO- GUN  PG 463	<b>GAUGES &amp; CHUCKS</b> <b>PG 463-465</b>	RUB TIP NOZZLE  PG 463	HI FLOW NOZZLE  PG 464
M-TIRE GAUGE  PG 464	STANDARD NOZZ  PG 464	VOL REGULA- TOR  PG 464	EXTENSION  PG 464	GUN ADAPTER  PG 464	COIL AIR HOSE  PG 464	COIL AIR HOSE  PG 465	HEX BALL CHUCK  PG 465	M. BALL CHUCK  PG 465
BALL CHCK BARB  PG 465	DUAL AIR CHUCK  PG 465	DUAL STRT AIR  PG 465	INFLATOR/ GAUGE  PG 465	INFLATOR/ GAUGE  PG 465	<b>AIR ACCESSORY KITS</b> <b>PG 466-468</b>	<b>GAUGES</b> <b>PG 469-472</b>	DRY GAUGE  PG 469	CENTER BACK MOUNT  PG 470
BALL CHCK BARBLIQUID FILLED  PG 471	BALL CHCK BARBWATER TEST  PG 471	DUAL STRT AIRGAS TEST  PG 472	THREAD SEAL  PG 465472	INFLATOR/ GAUGE BLUE SEAL TAPE  PG 465472	YEL GAS TAPE  PG 472	GRE OXY TAPE  PG 472	GREY SS TAPE  PG 472	<b>TRUCK &amp; TRAILER</b> <b>PG 473-494</b>

# HYDRAULICS

## PICTORIAL INDEX

 <p>AIR COIL PG 473</p>	 <p>SLIDER COIL PG 473</p>	 <p>AIRLINE CABLE PG 474</p>	 <p>AIRBRAKE REPAIR PG 474</p>	 <p>POGO STICK PG 474</p>	 <p>HOSE HOLDER PG 474</p>	 <p>HOSE HOLDER PG 474</p>	 <p>HOSE SEPARATOR PG 474</p>	 <p>CLIP CARABINER PG 475</p>	
 <p>HANGER BRACKET PG 475</p>	 <p>YOKE PG 475</p>	 <p>FRAME CLIP PG 475</p>	 <p>AIRHOSE CLIP PG 475</p>	 <p>TENDER KIT PG 476</p>	 <p>SPRING PG 476</p>	 <p>SLIDER BAR PG 477</p>	 <p>GLADHANDS PG 478</p>	 <p>BRACKET MOUNT PG 478</p>	
 <p>KNOB STYLE GH PG 478</p>	 <p>LEVER STYLE GH PG 478</p>	 <p>GLADHAND GRIP PG 479</p>	 <p>AL GLADHAND PG 479</p>	 <p>GLADHAND PACIFER PG 479</p>	 <p>GLADHAND SEAL PG 479</p>	 <p>GH COUPLING KIT PG 479</p>	 <p>NYLON GH HOLDER PG 479</p>	 <p>GH HOLDER KIT PG 480</p>	
 <p>GLADHAND LOCK PG 480</p>	 <p>KING PIN LOCK PG 481</p>	 <p>AIR CYLINDER PG 481</p>	 <p>HIGH LIFT CYLINDER PG 482</p>	 <p>TAILGATE CYLINDER PG 482</p>	 <p>TAILGATE AIR CYLINDER PG 482</p>	 <p>FIFTH WHEEL CYLINDER PG 483</p>	 <p>AIR TANK CHECK PG 483</p>	 <p>D2 AIR GOVERNOR PG 483</p>	
 <p>QCK RELEASE VALVE PG 483</p>	 <p>R12 RELAY VALVE PG 484</p>	 <p>R14 RELAY VALVE PG 484</p>	 <p>3 WAY SOLENOID PG 484</p>	 <p>UNI SOLENOID PG 484</p>	 <p>AIR SOLENOID PG 485</p>	 <p>7 WAY CABLE PG 485</p>	 <p>6 WAY ELEC CABLE PG 486</p>	 <p>4 WAY ELEC CABLE PG 486</p>	
 <p>DUEL POLE PG 486</p>	 <p>SINGLE POLE PG 486</p>	 <p>PLUG PG 487</p>	 <p>PLUG PG 487</p>	 <p>SOCKET PG 487</p>	 <p>7W DBLE GRIP PG 487</p>	 <p>ADAPTER PG 487</p>	 <p>RV 7WAY PLUG PG 487</p>	 <p>RV 7WAY SOCK PG 488</p>	
 <p>4WAY PLUG PG 488</p>	 <p>GROUND KIT PG 488</p>	 <p>PROTECTOR BOOT PG 488</p>	 <p>CIRCUIT BREAKER PG 489</p>	 <p>NOSE BOX-DEEP PG 490</p>	 <p>BATT GRND STRAP PG 490</p>	 <p>SS BATTERY NUT PG 490</p>	 <p>DEER WHISTLE PG 492</p>	 <p>CONSP TAPE PG 492</p>	
 <p>TARP STRAP PG 492</p>	 <p>DOT TUBING PG 494</p>	 <p>FUEL LINE PG 494</p>	 <p>AIR BRAKE HOSE PG 494</p>	<p><b>HYDRAULIC ADAPTERS</b> PG 495-539</p>		<p><b>TECHNICAL INFORMATION</b> PG 496-503</p>		<p><b>PIPE SWIVELS</b> PG 504-505</p>	
						 <p>M. SWL ADAPTER PG 504</p>	 <p>FE. SWL ADAPTER PG 504</p>		

# HYDRAULICS

## PICTORIAL INDEX

M. ELB  PG 504	FE. UNION  PG 505	M. 45° ELBOW  PG 505	FE. 45° UNION  PG505	M. SWL TEE  505	FE. SWL TEE  PG 505	FE. SWL TEE  PG 505	<b>JIC 37 FLARE</b> <b>PG 506-512</b>	JIC CAP  PG 506
JIC TUBE  PG 507	JIC M. CONN  PG 507	JIC FE. CONN  PG 508	JIC RED/EXP  PG 508	PLUG  PG 508	JIC UNION ELB.  PG 509	JIC M. ELBOW  PG 509	JIC M. ELBOW  PG 509	MALE 45°  PG 510
M. BRANCH TEE  PG 510	JIC FE. TEE  PG 510	JIC UNION TEE  PG 510	JIC BULK UNION  PG 511	BULK UNION ELB  511	45° UNION ELB  PG 511	BULK BRANCH T  PG 511	BULK RUN TEE  PG 511	JIC TO FEMALE  PG 511
JIC TO MALE  PG 512	<b>PIPE FITTINGS</b> <b>PG 512-516</b>	PIPE COU-PLING  PG 512	HEX PIPE NIPPLE  PG 512	EXP/PIPE ADAP  PG 513	HEX RED/ BUSH  PG 513	HEX HEAD PLUG  PG 513	HOLLOW HEX PLG  PG 513	FLUSH HLW PLUG  PG 513
SQR HEAD PLUG  PG 514	PIPE CAP  PG 514	MALE ELBOW  PG 515	45° M. ELBOW  PG 515	90° ST ELBOW  PG 515	45° ST ELBOW  PG 515	FE. ELBOW  PG 515	45° FE. ELBOW  PG 516	MALE PIPE TEE  PG 516
FE. PIPE TEE  PG 516	ST PIPE TEE  PG 516	FE. RUN PIPE T  PG 516	MALE PIPE TEE  PG 516	FE. PIPE TEE  PG 516	<b>O-RING ADAPTERS</b> <b>PG 517-519</b>	JIC TO O-RING  PG 517	O-RING TO PIPE  PG 517	O-RING TO 37°  PG 518
FE. O-RING  PG 518	O-RING TO FE.  PG 518	O-RING PLUG  PG 518	O-RING HLW PLG  PG 519	O-RING PORT  PG 519	<b>FEMALE SWIVELS</b> <b>PG 519-521</b>	JIC SWL ELBOW  PG 519	JIC SWL 45°  PG 519	JIC SWL TO F 90°  PG 520
JIC SWL CONN  PG 520	JIC SWL TO M  PG 520	JIC SWL TO F ADP  PG 520	JIC SWL BRANCH T  PG 520	JIC SWL RUN T  PG 521	<b>SAE O-RING ADAPTERS</b> <b>PG 521-523</b>	JIC TO ORING 90°  PG 521	JIC TO ORING 45°  PG 521	JIC BRANCH TEE  PG 520

# HYDRAULICS

## PICTORIAL INDEX

JIC RUN TEE  PG 521	ORING TO F 90°  PG 522	ORING TO M 90°  PG 522	ORING JIC 90°  PG 522	F TO M ORING 90°  PG 522	M ORING SWL AD  PG 523	90° ORING SWL  PG 523	45° ORING SWL  PG 523	VITON O-RING  PG 523
NITRILE O-RING  PG 523	<b>O-RING FACE SEAL</b> PGS 523-527	BRAZE TUBE NUT  PG 523	BRAZETUBE SLV  PG 524	CAP  PG 524	BULKHEAD LKNUT  PG 524	FACE SEAL ADPT  PG 525	PLUG  525	ORFS UNION 90°  PG 525
ORFS TO M 90°  PG 525	ORFS TO PIPE 90°  PG 525	ORFS UNION T  PG 526	M ORFS TO ORB  PG 525	M TO F 37° SWL  PG 526	SWL NUT ELBOW  PG 526	37° SWIVEL  PG 526	O-RING ELBOW  PG 526	ORFS TO 45°  PG 527
SWIVEL ELBOW  PG 527	<b>BSPT, BSPP, METRIC</b> PGS 527-530	JIC BSPT  PG 527	BSPT ELBOW  PG 527	HEX NIPPLE  PG 527	PLUG  PG 527	HEX NIPPLE BSPP  PG 527	COUPLING  PG 527	FEMALE SWIVEL  PG 528
ELBOW  PG 528	45° ELBOW  PG 528	MALE NIPPLE  PG 528	MALE BSPP  PG 528	SWIVEL BSPP  PG 529	PLUG BSPP  PG 529	HOLLOW BSPP  PG 529	FEMALE BSPP  PG 530	MALE ELBOW  PG 530
STRAIGHT SWIVEL  PG 530	METRIC PARALLEL  PG 530	HOLLOW  PG 530	FEMALE ADAPTER  PG 530	<b>QUICK DISCONNECTS</b> PGS 531-534	NO SPILL  PG 531	DRYBREAK  PG 531	ISO-A COUPLER  PG 531	ISO-A PLUG  PG 531
ISO-B COUPLER  PG 531	ISO-B PLUG  PG 532	FLUSH FACE  PG 532	FLUSH FACE  PG 532	LSQ SERIES  PG 532	LSQ SERIES  PG 533	AG SERIES  PG 533	KZE SERIES  PG 534	<b>VALVES, FLANGES</b> PGS 534-539
FLOW VALVE  PG 534	NEEDLE VALVE  PG 535	PRESSURE VALVE  PG 535	JIC FLANGE  PG 537	JIC FLANGE  PG 537	JIC FLANGE  PG 537	FLANGE KIT  PG 538	FLANGE KIT  PG 538	SPLIT FLANGE  PG 538



# STAINLESS STEEL

## PICTORIAL INDEX

 <p>PG 538</p>	 <p>PG 539</p>	 <p>PG 539</p>	 <p>PG 539</p>	<p><b>STAINLESS STEEL</b> PG 543-555</p>	 <p>PG 543</p>	 <p>PG 543</p>	 <p>PG 544</p>	 <p>PG 544</p>
 <p>PG 544</p>	 <p>PG 545</p>	 <p>PG 546</p>	 <p>PG 546</p>	 <p>PG 546</p>	 <p>PG 547</p>	 <p>PG 547</p>	 <p>PG 547</p>	 <p>PG 547</p>
 <p>PG 548</p>	 <p>PG 548</p>	 <p>PG 548</p>	 <p>PG 549</p>	 <p>PG 549</p>	 <p>PG 549</p>	 <p>PG 549</p>	 <p>PG 550</p>	 <p>PG 550</p>
 <p>PG 551</p>	 <p>PG 551</p>	 <p>PG 551</p>	 <p>PG 552</p>	 <p>PG 552</p>	 <p>PG 553</p>	 <p>PG 553</p>	 <p>PG 554</p>	 <p>PG 554</p>
 <p>PG 555</p>	 <p>PG 555</p>	 <p>PG 555</p>	 <p>PG 555</p>	 <p>PG 555</p>				

# PIPE FITTINGS



Pipe Size	1/16	1/8	1/4	3/8	1/2	3/4	1
Thread Size	1/16-27	1/8-27	1/4-18	3/8-18	1/2-14	3/4-14	1-11 <sup>1/2</sup>
Working Pressure	1200	1200	1200	1200	1200	1000	1000
Thread OD	1/4	3/8	1/2	5/8	3/4	1	1-1/4

**Typical Application:** Grease, fuels, LP and Natural gas (available on special order), refrigeration, instrumentation and hydraulic systems.

**Pressure:** Operating pressure up to 1200 PSI.

**Vibration:** Fair resistance.

**Temperature Range:**  
-65°F to +250°F (-53°C to +121°C).

**Used With:** Brass, bronze, copper, steel, aluminum and iron pipe.

**Tolerance :** +/- .02 on all dimensions. Dimension Data can change without notice. Please call us when dimensions are critical.

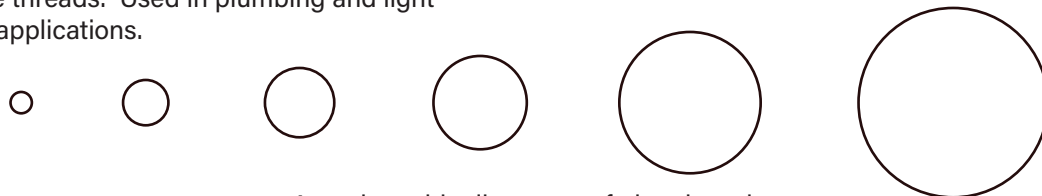
**Conformance:** Meets specifications and standards of ASA, ASME and SAE

- Not lead free
- **"L" at the end of a Part# means Light Pattern**  
- these fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

**• Assembly Instructions**

- 1 - Tighten approximately 2-1/2 turns past hand tight.
- 2 - Fittings with Everseal tighten two turns past hand tight. Brittle materials require special cautions.

- see page 547-550 for stainless steel
- see page 313 for steel fittings
- see page 295-297 for plastic pipe fittings.
- Lead Free Fittings  
see pages 157-160
- For Bronze & Larger Sizes  
see pages 248-268



Actual outside diameters of pipe threads



Actual Male Thread Profiles

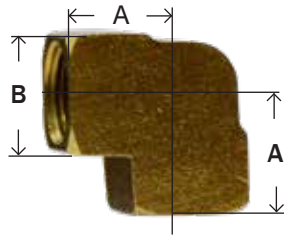
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**PIPE**

## BRASS FITTINGS

**90° FEMALE ELBOW**

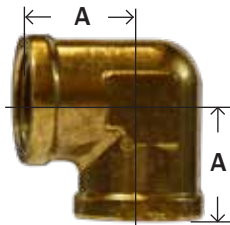
SAE# 130238



100

PART #	THREAD SIZE NPTF	A	B	APPROX. WT. LBS.	
28001	1/8"	0.55	0.56	0.09	----
28002	1/4"	0.78	0.68	0.13	----
28003	3/8"	0.84	0.81	0.16	----
28004	1/2"	1.09	1.00	0.34	----
28005	3/4"	1.16	1.25	0.60	----
28015B	3/8" x 1/4"	0.84	0.81	0.18	----
28053B	1/2" x 1/4"	1.09	1.00	0.37	----
28016B	1/2" x 3/8"	1.09	1.00	0.36	----

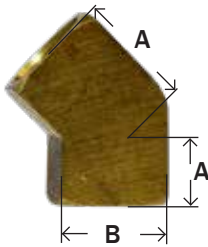
100 2200P 3500 302 200

**90° FORGED FEMALE ELBOW**

100F

PART #	THREAD SIZE NPTF	A	BODY WIDTH	APPROX. WT. LBS.	
28009	1/8"	0.57	0.50	0.04	----
28010	1/4"	0.70	0.68	0.10	----
28011	3/8"	0.81	0.81	0.12	----
28012	1/2"	1.00	1.00	0.23	----
28013	3/4"	1.13	1.25	0.42	----
28014	1/4" x 1/8"	0.72	0.65	0.12	----
28015	3/8" x 1/4"	0.81	0.81	0.15	----
28016	1/2" x 3/8"	1.00	1.00	0.28	----
28017	1"	1.42	1.50	0.75	----

1200P E7 100AF 100B

**45° FEMALE ELBOW**

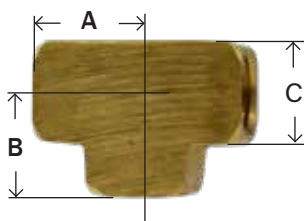
10045

PART #	THREAD SIZE NPTF	A	B	APPROX. WT. LBS.	
28018	1/8"	0.45	0.56	0.06	----
28019	1/4"	0.66	0.68	0.12	----
28020	3/8"	0.69	0.81	0.16	----
28021B	1/2"	0.94	1.00	0.25	----

129 2201P 205 23355 45EZ 105 100-45A

**UNION TEE**

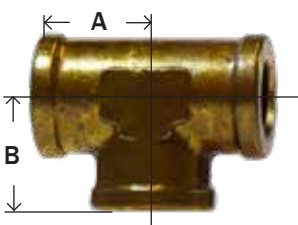
SAE# 130438



101

PART #	THREAD SIZE NPTF	A	B	C	APPROX. WT. LBS.	
28022	1/16"	0.55	0.55	0.58	0.11	----
28024	1/8"	0.55	0.55	0.56	0.08	----
28025	1/4"	0.78	0.78	0.68	0.17	----
28026	3/8"	0.84	0.84	0.81	0.22	----
28027	1/2"	1.09	1.09	1.00	0.43	----
28028	3/4"	1.16	1.16	1.25	0.64	----

311 101A 322 2203P 3700 203

**UNION FORGED TEE**

101F

PART #	THREAD SIZE NPTF	A & B	BODY WIDTH	APPROX. WT. LBS.	
28032	1/8"	0.56	0.50	0.06	----
28033	1/4"	0.71	0.68	0.13	----
28034	3/8"	0.81	0.81	0.16	----
28035	1/2"	1.00	1.00	0.27	----
28036	3/4"	1.16	1.25	0.53	----
28023	1"	1.42	1.50	.924	----

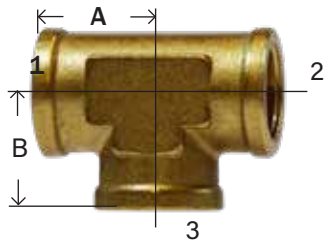
1203P LT7 101AF 101B

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PIPE

## BRASS FITTINGS

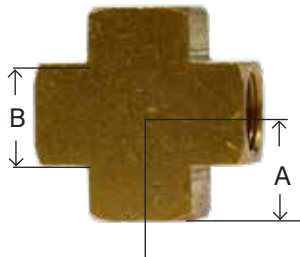
### REDUCING FORGED TEES



101FR

PART #	1 NPT	2 NPT	3 NPT	A & B	BODY WIDTH	APPROX. WT. LBS.	
28029	1/8"	1/8"	1/4"	0.72	0.69	0.16	----
28030	1/4"	1/4"	1/8"	0.72	0.69	0.14	----
28031	1/4"	1/4"	3/8"	0.81	0.81	0.21	----
28038	3/8"	1/4"	3/8"	0.81	0.81	0.18	----
28039	3/8"	3/8"	1/4"	0.81	0.81	0.18	----
28046	1/2"	1/2"	3/8"	1.00	1.00	0.30	----
28047	3/4"	1/2"	3/4"	1.20	1.25	0.59	----
28048	3/4"	3/4"	1/2"	1.16	1.25	0.59	----

### CROSS

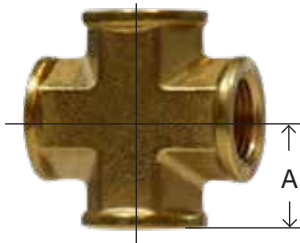


102

PART #	THREAD SIZE NPTF	A	B	APPROX. WT. LBS.	
28041	1/8"	0.55	0.56	0.10	----
28042	1/4"	0.78	0.68	0.21	----
28043	3/8"	0.84	0.81	0.25	----
28044	1/2"	1.09	1.00	0.51	----
28045	3/4"	1.16	1.25	0.75	----

2205P 3950 228 102A 102BE

### FORGED CROSS



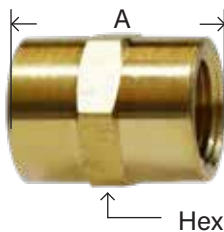
102F

PART #	THREAD SIZE NPTF	A	BODY WIDTH	APPROX. WT. LBS.	
28049	1/8"	0.56	0.50	0.06	----
28050	1/4"	0.72	0.69	0.15	----
28051	3/8"	0.81	0.81	0.18	----
28052	1/2"	1.00	1.00	0.34	----

C7 105 102AF 102B

### COUPLING

SAE# 130138



103

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28057	1/16"	0.75	0.44	0.02	
28058L	1/8"	0.75	0.50	0.02	----
28058	1/8"	0.75	0.56	0.03	----
28059L	1/4"	0.88	0.63	0.03	----
28059	1/4"	1.12	0.75	0.09	----
28060L	3/8"	1.00	0.81	0.06	----
28060	3/8"	1.12	0.87	0.10	----
28061L	1/2"	1.19	0.93	0.09	----
28061	1/2"	1.50	1.06	0.19	----
28062L	3/4"	1.19	1.25	0.18	----
28062	3/4"	1.53	1.25	0.24	----
28063	1"	1.89	1.50	.357	----

207P 371 3300 103AH 103B

DIMENSION DATA CAN CHANGE WITHOUT NOTICE. PLEASE CHECK WHEN DIMENSIONS ARE CRITICAL.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

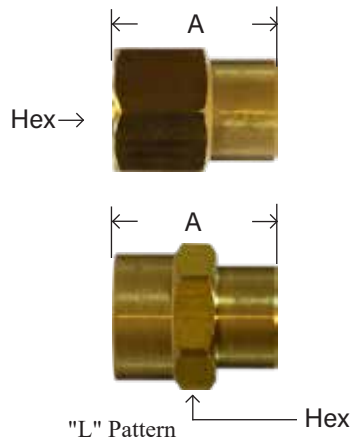


**PIPE**

## BRASS FITTINGS

**REDUCING COUPLING**

SAE# 130138

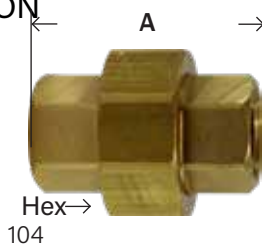


119

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28181L	1/4" x 1/8"	0.94	0.62	0.04	----
28181	1/4" x 1/8"	0.97	0.75	0.08	----
28182	3/8" x 1/8"	0.94	0.87	0.10	----
28183L	3/8" x 1/4"	1.00	0.81	0.06	----
28183	3/8" x 1/4"	1.16	0.87	0.12	----
28180*	1/2" x 1/8"	1.19	0.93	0.15	----
28184L	1/2" x 1/4"	1.11	1.00	0.10	----
28184	1/2" x 1/4"	1.28	1.06	0.20	----
28185L	1/2" x 3/8"	1.19	0.93	0.10	----
28185	1/2" x 3/8"	1.38	1.06	0.20	----
28187	3/4" x 1/4"	1.19	1.19	0.17	----
28188*	3/4" x 3/8"	1.32	1.37	0.20	----
28189*	3/4" x 1/2"	1.19	1.18	0.14	----
28178	1" x 1/2"	1.50	1.56	0.41	----
28179	1" x 3/4"	1.56	1.56	0.39	----

\*Not to SAE specs

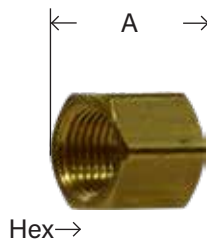
377 3300 208P 108 119B 119AH

**UNION**

104

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28067	1/8"	1.25	0.94	0.13	----
28068	1/4"	1.31	1.06	0.18	----
28069	3/8"	1.75	1.25	0.33	----
28070	1/2"	1.79	1.56	0.50	----
28071	3/4"	1.96	1.68	0.47	----

3250 212P 104A 104B

**CAP**

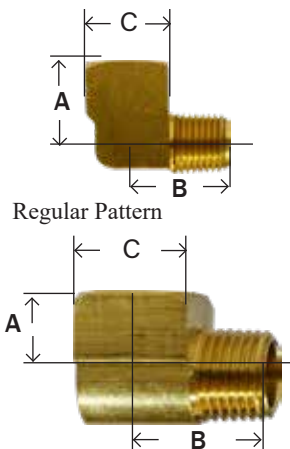
108

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28075	1/8"	0.47	0.56	0.03	----
28076	1/4"	0.60	0.68	0.04	----
28077	3/8"	0.69	0.81	0.06	----
28078	1/2"	0.78	0.93	0.08	----
28079	3/4"	0.94	1.25	0.16	----
28080	1"	1.13	1.50	0.23	----

3129 213P 23129 108A 108B

**90° STREET ELBOW**

SAE# 130239



116

PART #	THREAD SIZE NPTF	A	B	C	APPROX. WT. LBS.	
28161	1/16"	0.69	0.60	0.47	0.04	----
28156	1/8"	0.48	0.66	0.56	0.05	----
28156S	1/8" short	0.34	0.57	0.50	0.03	----
28157	1/4"	0.72	0.91	0.735	0.09	----
28157S	1/4" short	0.45	0.78	0.68	0.07	----
28158	3/8"	0.78	0.97	0.81	0.16	----
28159	1/2"	1.03	1.25	1.00	0.33	----
28160	3/4"	1.12	1.38	1.25	0.52	----

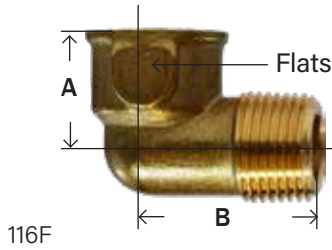
2202P 304 115 202 3400 116A

"S" = Short Pattern

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**PIPE**  
BRASS FITTINGS

**FORGED 90° STREET ELBOW**

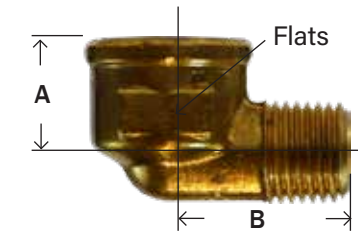


116F

PART #	THREAD SIZE NPTF	A	B	WRENCH FLATS	APPROX. WT. LBS.	
28165	1/8"	0.61	0.85	0.62	0.06	----
28166	1/4"	0.50	0.86	0.72	0.08	----
28167	3/8"	0.70	1.00	0.88	0.10	----
28168	1/2"	0.96	1.43	1.00	0.20	----
28169	3/4"	0.90	1.40	1.25	0.25	----

5E8 1202P 116AF 116B

**FORGED REDUCING 90° STREET ELBOW**



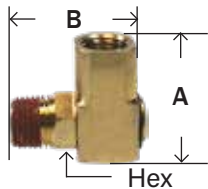
128

\*Barstock

PART #	THREAD SIZE NPTF FXM	A	B	WRENCH FLATS	APPROX. WT. LBS.	
28259*	1/8" x 1/16"					----
28260	1/8" x 1/4"	0.50	0.87	0.71	0.08	----
28261B*	1/4" x 1/8"	0.53	0.72	0.69	0.07	----
28261	1/4" x 1/8"	0.50	0.81	0.72	0.06	----
28262	1/4" x 3/8"	0.93	1.06	0.59	0.12	----
28263	3/8" x 1/4"	0.58	0.94	0.81	0.07	----
28264	3/8" x 1/2"	0.97	1.36	1.00	0.28	----
28265	1/2" x 3/8"	0.96	1.37	1.00	0.22	----
28265B*	1/2" x 3/8"	1.03	1.11	1.00	0.24	----

**PIPE SWIVEL 90° STREET ELBOW**

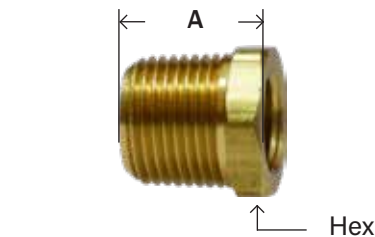
▪ Burst Pressure 1,200 PSI ▪ Working Pressure 300 PSI



PART #	MIP XFIP THREAD SIZE NPTF	A	B	HEX	APPROX. WT. LBS.	
28430	1/4"	1.18	1.25	.625	0.22	----

**HEX BUSHING**

SAE# 130140



110

PART #	THREAD SIZE NPTF MXF	A	HEX	APPROX. WT. LBS.	
28101	1/8" x 1/16"				
28102L	1/4" x 1/8"	0.62	0.56	0.02	----
28102	1/4" x 1/8"	0.75	0.56	0.04	----
28103	3/8" x 1/8"	0.75	0.68	0.05	----
28104L	3/8" x 1/4"	0.69	0.68	0.03	----
28104	3/8" x 1/4"	0.75	0.75	0.05	----
28105L	1/2" x 1/8"	0.81	0.81	0.08	----
28105	1/2" x 1/8"	1.00	0.87	0.10	----
28106L	1/2" x 1/4"	0.81	0.81	0.08	----
28106	1/2" x 1/4"	1.00	0.87	0.11	----
28107L	1/2" x 3/8"	0.81	0.81	0.05	----
28107	1/2" x 3/8"	1.00	0.87	0.10	----
28108	3/4" x 1/8"	0.94	1.06	0.20	----
28109L	3/4" x 1/4"	0.94	1.06	0.18	----
28110L	3/4" x 3/8"	0.94	1.06	0.15	----
28111L	3/4" x 1/2"	0.94	1.06	0.11	----
28111	3/4" x 1/2"	1.00	1.12	0.14	----
28091	1" x 1/8"	1.15	1.37	0.29	----
28112	1" x 1/4"	1.15	1.37	0.32	----
28113	1" x 3/8"	1.12	1.37	0.30	----
28114	1" x 1/2"	1.31	1.44	0.29	----
28115	1" x 3/4"	1.31	1.37	0.20	----

373 3220 209P 110A 110B

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

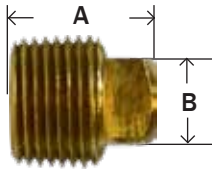
**PIPE****BRASS FITTINGS****FACE BUSHING**

110F

PART #	THREAD SIZE NPTF MXF	A	APPROX. WT. LBS.	
28121	1/4" x 1/8"	0.45	0.01	----
28122	3/8" x 1/8"	0.50	0.03	----
28116	3/8" x 1/4"	0.50	0.02	----
28090	1/2" x 1/8"	0.56	0.06	----
28128	1/2" x 1/4"	0.56	0.05	----
28117	1/2" x 3/8"	0.56	0.03	----
28129	3/4" x 1/4"	0.62	0.11	----
28130	3/4" x 3/8"	0.62	0.08	----
28118	3/4" x 1/2"	0.64	0.03	----
28120	1" x 1/2"	0.75	0.11	----
28119	1" x 3/4"	0.77	0.10	----

**SQUARE HEAD PLUG**

1/8 - 1/2 Solid



109

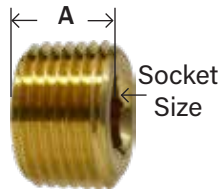
PART #	THREAD SIZE NPTF	A	B	APPROX. WT. LBS.	
28084	1/8"	0.58	0.27	0.02	----
28085	1/4"	0.80	0.37	0.03	----
28086	3/8"	0.80	0.43	0.06	----
28087	1/2"	1.07	0.55	0.13	----
28088**	3/4"	1.09	0.61	0.20	----
28089**	1"	1.24	0.81	0.35	----

\*\* Cored

3151 211P 109A 109B

**COUNTERSUNK HEX PLUG**

3/4" taper thread



109AL

PART #	THREAD SIZE NPTF	A	SOCKET SIZE	APPROX. WT. LBS.	
28092	1/16"	0.30	0.12	0.01	----
28093	1/8"	0.30	0.18	0.01	----
28094	1/4"	0.45	0.26	0.02	----
28095	3/8"	0.45	0.31	0.03	----
28096	1/2"	0.61	0.39	0.05	----

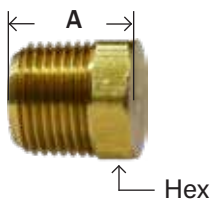
3153 219P 109CS 118

**SLOTTED-HEAD PLUG**

117

PART #	THREAD SIZE NPTF	A	APPROX. WT. LBS.	
28174	1/8"	0.31	0.01	----
28175	1/4"	0.42	0.02	----
28176	3/8"	0.45	0.05	----

220P 3150 117A 117B

**CORED HEX PLUGS**

121

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28200	1/16"	0.48	0.38	0.01	----
28201	1/8"	0.55	0.43	0.01	----
28202	1/4"	0.62	0.56	0.02	----
28203	3/8"	0.72	0.68	0.06	----
28204	1/2"	0.81	0.87	0.09	----
28205	3/4"	0.94	1.06	0.16	----

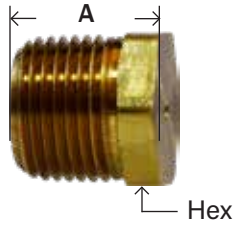
218P 3152 121A 103 121B PPH 218P

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PIPE

## BRASS FITTINGS

### SOLID HEX HEAD PLUGS



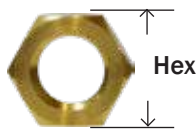
121S

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28201S	1/8"	0.55	0.43	0.02	----
28202S	1/4"	0.75	0.56	0.05	----
28203S	3/8"	0.66	0.68	0.07	----
28204S	1/2"	0.81	0.87	0.12	----
28205S	3/4"	0.92	1.06	0.24	----

121AS

### LOCKNUT

- Jam Nuts
- Straight pipe thread

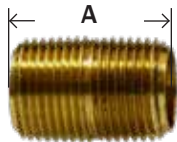


111

PART #	THREAD SIZE NPSL	HEX	THICKNESS	APPROX. WT. LBS.	
28123	1/8"	0.68	0.19	0.02	----
28124	1/4"	0.87	0.25	0.04	----
28125	3/8"	1.00	0.31	0.04	----
28126	1/2"	1.125	0.25	0.04	----
28127	3/4"	1.38	0.38	0.09	----

210P 21102 111A 111B

### CLOSE NIPPLE

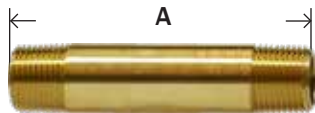


112

PART #	THREAD SIZE NPTF	A	APPROX. WT. LBS.	
28131	1/8"	0.75	0.01	----
28132	1/4"	0.88	0.02	----
28133	3/8"	1.00	0.05	----
28134	1/2"	1.12	0.06	----
28135	3/4"	1.31	0.11	----

165 215PN 3326 112A 112B

### LONG NIPPLE



113

PART #	THREAD SIZE NPTF	A LENGTH	APPROX. WT. LBS.	
28140	1/8"	1.50	0.03	----
28141	1/8"	2.00	0.04	----
28142	1/8"	2.50	0.06	----
28143	1/8"	3.00	0.06	----
28475	1/8"	3.50	0.07	----
28144	1/4"	1.50	0.03	----
28145	1/4"	2.00	0.05	----
28146	1/4"	2.50	0.08	----
28147	1/4"	3.00	0.10	----
28481	1/4"	3.50	0.12	----
28148	3/8"	1.50	0.06	----
28149	3/8"	2.00	0.10	----
28150	3/8"	2.50	0.10	----
28151	3/8"	3.00	0.13	----
28487	3/8"	3.50	0.17	----
28152	1/2"	1.50	0.08	----
28153	1/2"	2.00	0.12	----
28154	1/2"	2.50	0.16	----
28155	1/2"	3.00	0.20	----
28493	1/2"	3.50	0.24	----
28136	3/4"	1.50	0.12	----
28497	3/4"	2.00	0.18	----
28498	3/4"	2.50	0.23	----
28499	3/4"	3.00	0.28	----

- NOTE: For longer lengths and larger diameters, see our red brass nipples section.



113B 113A 166 3327, 3328, 3329, 3330 3331 215PNL

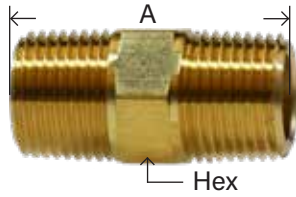
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**PIPE****BRASS FITTINGS****HEX NIPPLE**

SAE# 130137



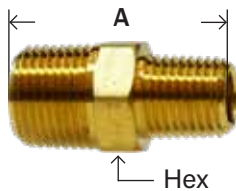
122

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28210	1/16"	0.97	0.38	0.02	----
28211L	1/8"	0.91	0.43	0.02	----
28211	1/8"	0.97	0.43	0.03	----
28212L	1/4"	1.12	0.56	0.04	----
28212	1/4"	1.38	0.56	0.06	----
28213L	3/8"	1.25	0.68	0.07	----
28213	3/8"	1.41	0.68	0.07	----
28214L	1/2"	1.50	0.87	0.11	----
28214	1/2"	1.81	0.87	0.17	----
28215L	3/4"	1.55	1.07	0.17	----
28215	3/4"	1.96	1.13	0.23	----
28216L	1"	1.75	1.39	0.22	----

216P 3325 379 122AH 122B

**REDUCING HEX NIPPLE**

SAE# 130137



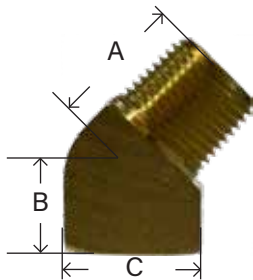
123

PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28218	1/8" x 1/16"	1.00	0.56	0.05	----
28220L	1/4" x 1/8"	1.00	0.56	0.04	----
28220	1/4" x 1/8"	1.19	0.56	0.04	----
28221L	3/8" x 1/8"	1.11	0.68	0.06	----
28221	3/8" x 1/8"	1.22	0.68	0.07	----
28222L	3/8" x 1/4"	1.19	0.68	0.06	----
28222	3/8" x 1/4"	1.41	0.68	0.07	----
28223L	1/2" x 1/4"	1.34	0.87	0.09	----
28223	1/2" x 1/4"	1.62	0.87	0.12	----
28224L	1/2" x 3/8"	1.41	0.87	0.11	----
28224	1/2" x 3/8"	1.62	0.87	0.12	----
28225L	3/4" x 1/2"	1.81	1.06	0.19	----
28225	3/4" x 1/2"	1.50	1.06	0.15	----
28227	1" x 3/4"	2.31	1.38	0.38	----

216P 3325 379 122AH 122B

**45° STREET ELBOW**

SAE# 130339



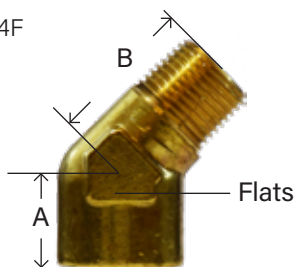
124

PART #	THREAD SIZE NPTF	B	A	C	APPROX. WT. LBS.	
28230	1/8"	0.38	0.50	0.56	0.03	----
28231	1/4"	0.56	0.72	0.68	0.09	----
28232	3/8"	0.56	0.78	0.81	0.12	----
28233	1/2"	0.75	1.00	1.00	0.20	----
28234	3/4"	0.75	1.06	1.25	0.34	----

306 3350 2214P 224

**45° FORGED STREET ELBOW**

124F



PART #	THREAD SIZE NPTF	A	B	WRENCH FLATS	APPROX. WT. LBS.	
28238	1/8"	0.63	0.81	0.56	0.05	----
28239	1/4"	0.63	1.06	0.81	0.11	----
28240	3/8"	0.72	1.06	0.93	0.17	----

45E8 124B

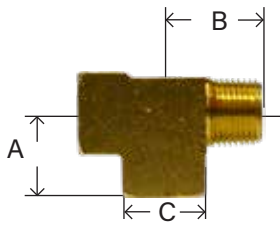
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PIPE

## BRASS FITTINGS

### STREET TEE/ SERVICE TEE/ MALE RUN TEE

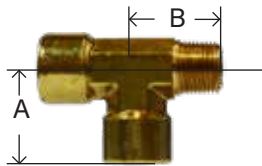
SAE# 130424



127

PART #	THREAD SIZE NPTF	A	B	C	APPROX. WT. LBS.	
28245	1/8"	0.55	0.66	0.56	0.08	----
28246	1/4"	0.78	0.91	0.68	0.17	----
28247	3/8"	0.84	0.97	0.81	0.22	----
28248	1/2"	1.09	1.25	1.00	0.40	----
28249	3/4"	1.16	1.39	1.25	0.60	----

### FORGED STREET TEE



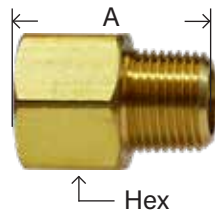
127F

PART #	THREAD SIZE NPTF	A	B	BODY WIDTH	APPROX. WT. LBS.	
28253	1/8"	0.56	0.75	0.50	0.05	----
28254	1/4"	1.03	1.00	0.46	0.13	----
28255	3/8"	1.19	1.09	0.68	0.24	----
28256	1/2"	1.52	1.40	0.88	0.45	----

107 T8 127B

### EXTENDER ADAPTER

SAE# 130139



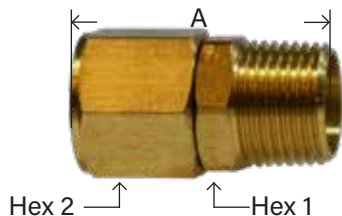
120

PART #	THREAD SIZE NPTF FXM	A	HEX	APPROX. WT. LBS.	
28190L	1/8" x 1/8"	0.83	0.50	0.03	----
28190	1/8" x 1/8"	0.88	0.56	0.04	----
28191L	1/4" x 1/8"	0.94	0.62	0.04	----
28191	1/4" x 1/8"	1.06	0.75	0.07	----
28192L	1/4" x 1/4"	1.00	0.62	0.04	----
28192	1/4" x 1/4"	1.25	0.75	0.07	----
28198	3/8" x 1/8"	1.00	0.81	0.06	----
28193L	3/8" x 1/4"	1.12	0.81	0.08	----
28193	3/8" x 1/4"	1.25	0.87	0.09	----
28194L	3/8" x 3/8"	1.24	0.81	0.10	----
28194	3/8" x 3/8"	1.25	0.87	0.11	----
28197	1/2" x 1/8"	1.09	0.94	0.07	----
28199	1/2" x 1/4"	1.46	1.06	0.08	----
28195L	1/2" x 3/8"	1.19	0.93	0.09	----
28195	1/2" x 3/8"	1.47	1.06	0.18	----
28196L	1/2" x 1/2"	1.25	0.94	0.10	----
28196	1/2" x 1/2"	1.66	1.06	0.12	----
28207	3/4" x 3/8"	1.59	1.25	0.26	----
28208	3/4" x 1/2"	1.69	1.37	0.14	----
28208L	3/4" x 1/2"	1.22	1.25	0.13	----
28209	3/4" x 3/4"	1.69	1.37	0.34	----

375 222P 3200 R1 120AH 120B

### PIPE SWIVEL ADAPTER

\*300 PSI all sizes



### MALE NPT X FEMALE NPT

- 360° Turning
- Swivels



PART #	THREAD SIZE NPTF FXM	A	HEX 1	HEX 2	APPROX. WT. LBS.	
28424	1/8"	1.10	0.43	0.50	0.05	----
28425	1/4"	1.34	0.56	0.62	0.06	----
28426	3/8"	1.36	0.68	0.75	0.08	----
28427	1/2"	1.87	0.87	0.95	0.10	----

PART #	SIZE	
320061	1/4	----

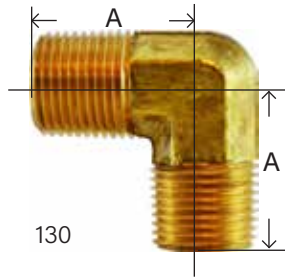
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

344R 3183

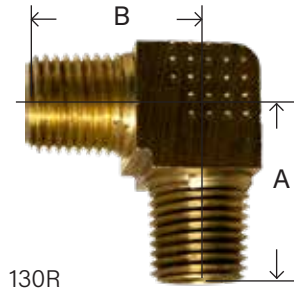
**PIPE**

## BRASS FITTINGS

**FORGED 90° MALE ELBOW**

PART #	THREAD SIZE NPTF	A	BODY WIDTH	APPROX. WT. LBS.	
28266	1/8"	0.79	0.38	0.04	----
28267	1/4"	0.87	0.45	0.06	----
28268	3/8"	1.06	0.59	0.12	----
28269	1/2"	1.38	0.78	0.21	----

LE5 3455 116AMF

**BARSTOCK 90° MALE ELBOW**

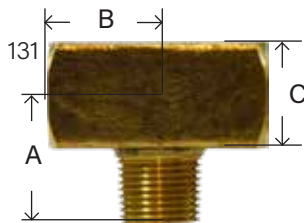
PART #	THREAD SIZE NPTF	A	BODY WIDTH	APPROX. WT. LBS.	
28266B	1/8"	0.69	0.56	0.08	----
28267B	1/4"	0.95	0.59	0.09	----
28268B	3/8"	1.01	0.71	0.15	----
28269B	1/2"	1.40	1.00	0.38	----
28270B	3/4"	1.50	1.25	0.55	----
28276B	1/2" x 3/8"	1.12	1.00	0.35	----

**FORGED 90° MALE REDUCING ELBOW**

PART #	THREAD SIZE NPTF	A	B	BODY WIDTH	APPROX. WT. LBS.	
28274	1/4" x 1/8"	0.88	0.78	0.47	0.06	----
28275	3/8" x 1/4"	0.90	0.90	0.46	0.06	----
28276	1/2" x 3/8"	1.12	1.00	0.59	0.12	----

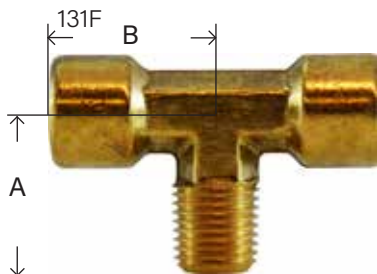
**MALE BRANCH TEE**

SAE# 130425



PART #	THREAD SIZE NPTF	A	B	C	APPROX. WT. LBS.	
28281	1/8"	0.66	0.55	0.56	0.08	----
28282	1/4"	0.91	0.78	0.68	0.15	----
28283	3/8"	0.97	0.84	0.81	0.22	----
28284	1/2"	1.25	1.09	1.00	0.40	----
28285	3/4"	1.38	1.16	1.25	0.62	----

T9 X106 23601 3600 2224P 226 329 128

**FORGED MALE BRANCH TEE**

PART #	THREAD SIZE NPTF	A	B	BODY WIDTH	APPROX. WT. LBS.	
28281F	1/8"	0.75	0.56	0.50	0.06	----
28282F	1/4"	1.00	1.03	0.46	0.12	----

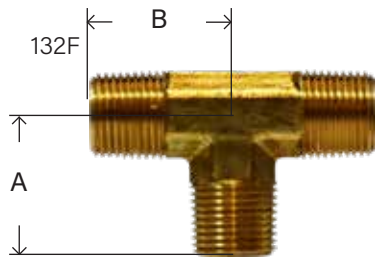
T9

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PIPE

## BRASS FITTINGS

### FORGED ALL MALE TEE

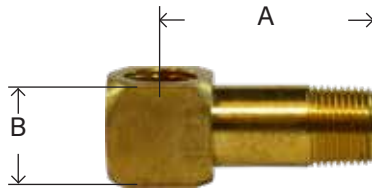


PART #	THREAD SIZE NPTF	A	B	BODY WIDTH	APPROX. WT. LBS.	
28290	1/8"	0.75	0.75	0.43	0.06	----
28291	1/4"	0.86	0.86	0.43	0.08	----
28292	3/8"	1.09	1.09	0.60	0.16	----
28293	1/2"	1.22	1.22	0.68	0.22	----
28294	3/4"	1.43	1.43	0.87	0.38	----

T12 M101

### LONG STREET ELLS

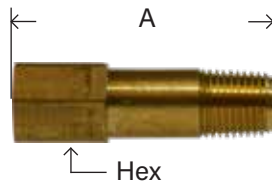
D.O.T. Approved



PART #	THREAD SIZE NPTF	A	B	APPROX. WT. LBS.	
28440	1/8"	1-3/16"	0.50	0.06	----
28441	1/8"	1-7/16"	0.50	0.06	----
28442	1/8"	1-11/16"	0.50	0.06	----
28443	1/8"	1-7/8"	0.50	0.16	----
28328	1/4"	1-3/16"	0.75	0.12	----
28329	1/4"	1-7/16"	0.75	0.14	----
28330	1/4"	1-11/16"	0.75	0.15	----
28331	1/4"	1-7/8"	0.62	0.09	----
28332	1/4"	2-1/4"	0.75	0.17	----
28333	3/8"	1-3/4"	0.87	0.22	----

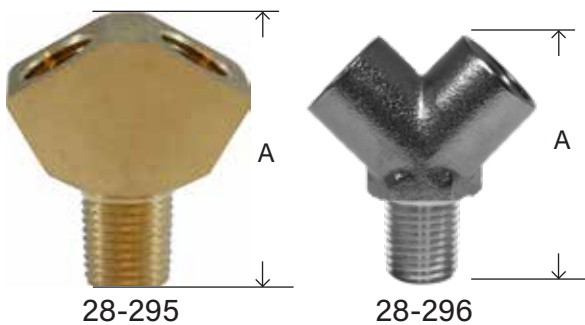
### LONG EXTENSION ADAPTERS

D.O.T. Approved



PART #	THREAD SIZE NPTF	A	HEX	APPROX. WT. LBS.	
28335	1/8"	1-1/4"	0.50	0.04	----
28336	1/8"	1-3/4"	0.50	0.05	----
28337	1/8"	3"	0.50	0.09	----
28338	1/4"	1-9/16"	0.62	0.07	----
28339	1/4"	1-13/16"	0.62	0.08	----
28340	1/4"	2-1/16"	0.62	0.10	----

### PIPE WYE FIP X MIP



PART #	THREAD SIZE NPT	A	APPROX. WT. LBS.	
28295	1/4"	1.56	.15	----
28296	1/4 N/P	1.4	.12	----

### PIPE WYE FIP X FIP - NICKEL PLATED



PART #	THREAD SIZE NPT	A	APPROX. WT. LBS.	
28298	1/4	1.4	.12	----

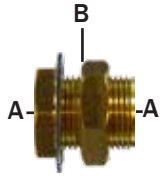
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



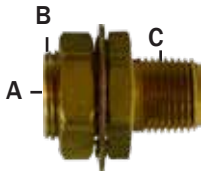
**BULKHEAD FITTINGS**

## BRASS FITTINGS

**BULKHEAD / ANCHOR / FRAME COUPLINGS**FEMALE PIPE X  
FEMALE PIPE

Part #	Terminal Bolts/ Frame		Hole Size	Length (in.)	
	A	B			
28299	1/8-27 NPTF	5/8-18 UNS	5/8	0.96	----
28300	1/8-27 NPTF	5/8-18 UNS	5/8	1-1/2	----
28301	1/4-18 NPTF	3/4-16 UNS	3/4	15/16	----
28302	1/4-18 NPTF	3/4-16 UNS	3/4	1-1/2	----
28315*	1/4-18 NPTF	3/4-16 UNS	3/4	1-1/2	----
28303	3/8-18 NPTF	1-14 UNS	1	1-5/16	----
28304	1/2-14 NPTF	1-1/8-14 UNS	1-1/8	1-1/2	----
28311	3/4-14 NPTF	1-5/16-12	1-5/16	1-1/2	----
28316**	1-11/1/2	1-5/8-14	1-5/8	1.68	----

\* Same as 28-302 except with a larger mounting nut. \*\*Without washer



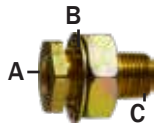
FEMALE PIPE X MALE PIPE

	A	B	C	
28317	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-1/8
28318	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-11/16
28319	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-29/32



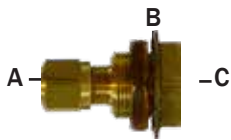
FEMALE PIPE X MALE PIPE

28313	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-7/8	----
-------	-------------	----------	-------------	-------	------



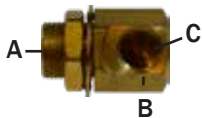
FEMALE PIPE X MALE PIPE

28346	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-7/8	----
28347	1/2-14 NPTF	1-14 UNS	1/2-14 NPTF	2-3/8	----



TUBE X FEMALE PIPE

28321	1/2-O.D. Tube	7/8-20 UNCF	3/8-18 NPTF	1-5/16	----
28322	3/8-O.D. Tube	7/8-20 UNCF	3/8-18 NPTF	1-3/8	----



FEMALE PIPE X CLAMPING STUD ELBOW

28348	3/8-18 NPTF	7/8-20 UNEF	3/8-18 NPTF	2-5/16	----
-------	-------------	-------------	-------------	--------	------



BRASS MARINE BULKHEAD

46540	5/16 Hose ID	----	----	2.37	----
46541	3/8 Hose ID	----	----	2.37	----

**CROSSOVER NUMBERS**

28-300	207X2	129A-A	50004	55207							1495B-A	ACBH207-2	207ACBH-2				
28-301	207X4	129AS-B		55611		S611	114-44	1345	382-44S	392C-94		ACBHS207-4					
28-302	207X4	129A-B	50005	55661			114B-44	1344	382-44L		035081	ACBH207-4	207ACBH-4			11306	90648
28-303	207X6	129A-C	50006	55607		S661/ S607	114-66	1346	382-66		035087	ACBH207-6	207ACBH-6			11307	17709
28-304	207X8	129A-D	50007	55807		S807	114-88	1351				ACBH207-8	207ACBH-8				
28-317				55615		S615	117-84										
28-318				55620		S620			381-86S							11304	
28-319			50001				115-86				035079	1496-DC					
28-313			50010	55600		S664	115-88	1342	380-84	5730	035021				11300	55X6	
28-346			50013	55613		S613											
28-347			50012	55629		S629					035039						
28-321							391-86/1347										
28-322							391-66										
28-348				55616													

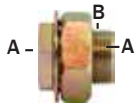
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BULKHEAD FITTINGS

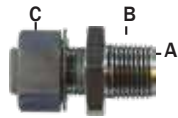
## BRASS FITTINGS

Part #	Terminal Bolts/ Frame			Length (in.)	List
	A	B	C		

### STEEL BULKHEAD FITTINGS

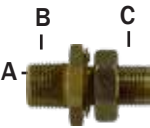


28306	1/4-18 NPTF	3/4 - 16 UNS		0.94	----
28307	1/4-18 NPTF	3/4 - 16 UNS		1.50	----
28308	3/8-18 NPTF	1 - 14 UNS		1.31	----

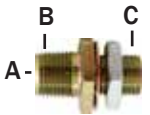


#### FEMALE PIPE X MALE PIPE

28309	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2.16	----
28310	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2.53	----

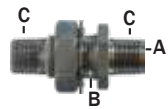


28345	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2-5/32	----
-------	-------------	--------------	-------------	--------	------



#### FEMALE PIPE X MALE PIPE

28325	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	1-11/16	----
-------	-------------	--------------	-------------	---------	------



28312	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2.94	----
28320	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	3-15/16	----

### STAINLESS STEEL BULKHEAD FITTINGS

- Temperature range: -20F° - 360F°
- Working pressure: 1450 - 2175PSI

#### BULKHEAD FITTINGS - STAINLESS STEEL 316L NPT (1/8-1/2")



PART #	SIZE	HOLE SIZE	HEX	LENGTH	
28300SS	1/8"	0.701	0.866	0.748	----
28301SS	1/4"	0.858	1.063	0.748	----
28303SS	3/8"	1.055	1.260	1.102	----
28304SS	1/2"	1.173	1.417	1.378	----

#### BULKHEAD FITTINGS - STAINLESS STEEL 316 NPT (3/4-2")



PART #	SIZE	HOLE SIZE	HEX	LENGTH	
63214	3/4"	1-5/8"	2-15/32"	1-13/16"	----
63215	1"	2-1/4"	3-1/16"	2-7/8"	----
63216	1-1/4"	2-1/4"	3-1/16"	2-3/8"	----
63217	1-1/2"	3"	4-1/4"	2-5/8"	----
63218	2"	3"	4-1/4"	2-5/8"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE BARB

## BRASS FITTINGS

# HOSE BARB FITTINGS



### • Temperature and Working Pressure Ranges

From -40°F to + 160°F at 150 PSI maximum.

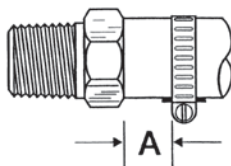
### • Tolerance

+/- .02 on all dimensions. Dimension Data can change without notice. Please call us when dimensions are critical.

**Note:** These fittings are intended for use with hose clamp, similar type clamp or a crimped ferrule.

### • Assembly Instructions

- 1- Cut hose cleanly and squarely to length.
- 2- Slide clamp on hose.
- 3- Lubricate hose. Push hose on fitting until hose bottoms against stop ring or hex.
- 4- Position hose clamp as shown below and secure with a screwdriver or wrench. Maintain "A" dimension noted below for proper clamp positioning.



• For Lead Free AB1953 Compliant Fittings see pages 161

Other Barbs available



See page 334-347 for plastic hose barb fittings



See page 27-28 for stainless steel hose barbs



See page 358 for King Nipples

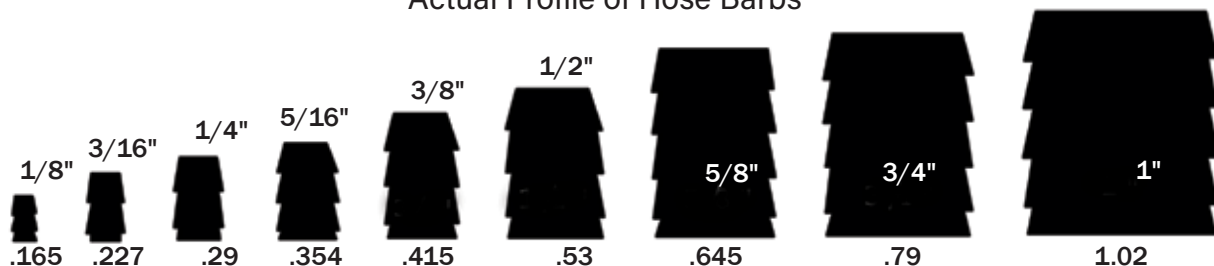


Stainless Steel hose barbs for beverage service available -

See beverage fitting section, pg. 28-29

Hose Size	A
3/16"	1/4"
1/4"	1/4"
5/16"	1/4"
3/8"	1/8"
1/2"	1/8"
5/8"	1/8"
3/4"	1/8"

### Actual Profile of Hose Barbs

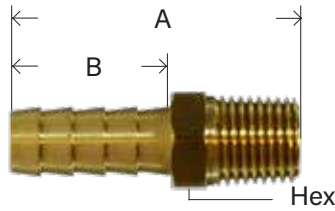


# HOSE BARB

## BRASS FITTINGS

### RIGID MALE ADAPTER

- These are not Lead Free



29  
129

PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32950	1/16" x 10/32"	0.90	0.45	0.38	0.01	----
32951	1/16" x 1/16"	0.91	0.48	0.38	0.01	----
32912	1/8" x 10/32"	0.92	0.48	0.38	0.01	----
32300	1/8" x 1/16"	0.93	0.48	0.38	0.01	----
32001 *	1/8" x 1/8"	1.19	0.69	0.43	0.02	----
32027	1/8" x 1/4"	1.16	0.46	0.56	0.02	----
32952	3/16" x 1/16"	1.20	0.75	0.38	0.02	----
32002 *	3/16" x 1/8"	1.19	0.75	0.43	0.02	----
32003 *	3/16" x 1/4"	1.37	0.69	0.56	0.04	----
32953	3/16" x 3/8"	1.44	0.69	0.68	0.04	----
32301	1/4" x 1/16"	1.44	0.88	0.43	0.02	----
32004 *	1/4" x 1/8"	1.47	0.97	0.43	0.02	----
32005 *	1/4" x 1/4"	1.72	0.97	0.56	0.04	----
32006 *	1/4" x 3/8"	1.72	0.97	0.68	0.05	----
32007	1/4" x 1/2"	1.72	0.81	0.87	0.10	----
32954	1/4" x 3/4"	1.86	0.96	1.06	0.15	----
32008 *	5/16" x 1/8"	1.47	0.97	0.43	0.02	----
32009 *	5/16" x 1/4"	1.72	0.97	0.56	0.04	----
32010 *	5/16" x 3/8"	1.76	0.97	0.68	0.06	----
32011 *	3/8" x 1/8"	1.53	0.97	0.56	0.03	----
32012 *	3/8" x 1/4"	1.75	0.97	0.56	0.05	----
32013 *	3/8" x 3/8"	1.72	0.96	0.68	0.06	----
32014 *	3/8" x 1/2"	1.87	0.97	0.87	0.09	----
32026 *	3/8" x 3/4"	1.97	0.97	1.06	0.16	----
32956	7/16" x 1/4"	1.75	0.97	0.56	0.05	----
32957	7/16" x 3/8"	1.73	0.97	0.70	0.07	----
32958	7/16" x 1/2"	1.87	0.97	0.88	0.10	----
32302	1/2" x 1/8"	1.57	0.95	0.56	0.06	----
32015 *	1/2" x 1/4"	1.72	0.97	0.56	0.04	----
32016 *	1/2" x 3/8"	1.76	0.97	0.68	0.07	----
32017 *	1/2" x 1/2"	1.87	0.96	0.87	0.11	----
32018 *	1/2" x 3/4"	1.94	0.97	1.06	0.16	----
32303	1/2" x 1"	2.31	0.99	1.37	0.33	----
32304	5/8" x 1/4"	1.67	0.92	0.68	0.06	----
32019 *	5/8" x 3/8"	1.76	0.97	0.68	0.08	----
32020 *	5/8" x 1/2"	1.87	0.96	0.87	0.11	----
32021 *	5/8" x 3/4"	1.87	0.96	1.06	0.14	----
32305	5/8" x 1"	2.31	0.96	1.37	0.36	----
32915	3/4" x 1/4"	1.64	0.87	0.81	0.11	----
32306	3/4" x 3/8"	1.65	0.87	0.81	0.12	----
32022 *	3/4" x 1/2"	1.87	0.96	0.87	0.14	----
32023 *	3/4" x 3/4"	1.87	0.96	1.06	0.15	----
32316	3/4" x 1"	2.55	1.15	1.37	0.38	----
32307	1" x 1/2"	1.80	0.87	1.06	0.18	----
32024 *	1" x 3/4"	2.19	1.19	1.06	0.32	----
32025 *	1" x 1"	2.48	1.19	1.37	0.39	----
32029	1-1/4" x 3/4"	2.37	1.19	1.37	0.35	----
32028	1-1/4" x 1"	2.55	1.19	1.37	0.46	----

\* See page 27 for stainless steel.

See page 28 for beverage #303 stainless fittings

4244 PGH 101 102 201A 125HBL 105B-1 KF-PS MPB

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

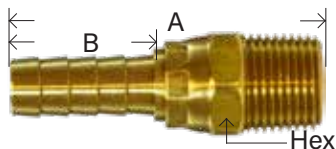


**HOSE BARB**

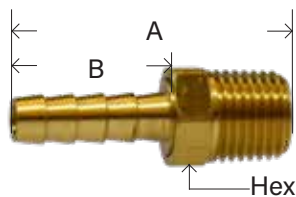
## BRASS FITTINGS

**BRASS RIGID MALE BSPT BARB ADAPTER**29SWV  
29MS

PART #	HOSE I.D. X MALE BSPT	
32450	1/4" x 1/8"	----
32451	1/4" x 1/4"	----
32452	3/8" x 1/4"	----
32453	3/8" x 3/8"	----
32454	3/8" x 1/2"	----
32455	1/2" x 3/8"	----
32456	1/2" x 1/2"	----
32457	3/4" x 3/4"	----
32458	1" x 1"	----

**SWIVEL MALE ADAPTER**

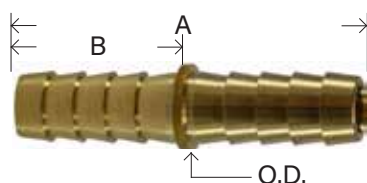
Rotation 360°



PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32329	3/16" x 1/8"	2.00	0.78	0.56	0.06	----
32331	3/16" x 1/4"	1.95	0.78	0.56	0.06	----
32332	1/4" x 1/8"	2.19	0.97	0.56	0.06	----
32349	1/4" x 1/4"	2.12	0.97	0.56	0.06	----
32351	3/8" x 1/8"	2.12	0.97	0.56	0.07	----
32201	3/8" x 1/4"	2.12	0.97	0.56	0.07	----
32360	3/8" x 3/8"	2.12	0.97	0.69	0.08	----
32355	1/2" x 3/8"	2.12	0.97	0.68	0.10	----
32356	1/2" x 1/2"	2.33	0.97	0.87	0.14	----
32357	3/4" x 3/4"	2.33	0.97	1.06	0.20	----
32386	1" x 1"	2.88	1.19	1.38	0.40	----

SMS 103

PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32200	1/4" x 1/4"	1.65	.89	0.56	0.04	----
32202	3/8" x 3/8"	1.75	1.00	0.68	0.08	----

**MENDER/ SPLICER**29S  
129S

PART #	HOSE I.D. X HOSE I.D.	A	B	O.D.	APPROX. WT. LBS.	
32091 *	1/8"	0.98	0.45	0.31	0.01	----
32092	3/16"	1.62	0.77	0.36	0.02	----
32093 *	1/4"	2.00	0.96	0.37	0.02	----
32079 *	1/4" x 1/8"	1.50	0.97	0.37	0.02	----
32094 *	5/16"	2.00	0.96	0.39	0.02	----
32090 *	5/16" x 1/4"	2.00	0.97	0.50	0.03	----
32095 *	3/8"	2.00	0.97	0.51	0.04	----
32960	3/8 x 1/8	1.58	1.00	0.50	0.03	----
32961	3/8 x 3/16	1.75	1.00	0.50	0.03	----
32080 **	3/8" x 1/4"	2.06	0.97	0.56	0.03	----
32375 *	3/8" x 5/16"	2.00	0.97	0.50	0.03	----
32096 *	1/2"	2.00	0.96	0.62	0.06	----
32087 *	1/2" x 3/8"	2.06	0.97	0.71	0.06	----
32097	5/8"	2.05	0.96	0.75	0.08	----
32088	5/8" x 3/8"	2.06	0.97	0.75	0.06	----
32376	5/8" x 1/2"	2.06	0.97	0.75	0.07	----
32098 *	3/4"	2.50	1.15	0.87	0.10	----
32089	3/4" x 1/2"	2.28	1.19	0.87	0.10	----
32379	3/4" x 5/8"	2.02	0.96	0.87	0.10	----
32380	1" x 3/4"	2.58	1.19	1.12	0.18	----
32099	1"	3.00	1.44	1.12	0.23	----

MSB 122HBL HM 129 178 73 108



\* Add SS to the end of the part number for Stainless.

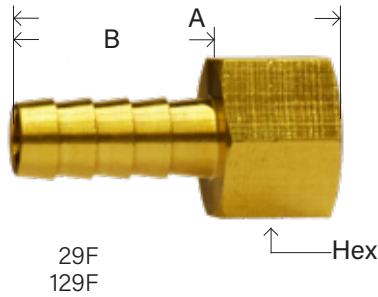
\*\* See hose splicers on page 27 for Stainless.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE BARB

## BRASS FITTINGS

### RIGID FEMALE ADAPTER



PART #	HOSE I.D. X FEMALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32050	1/8" x 1/8"	0.96	0.46	0.50	0.02	----
32317	1/8" x 1/4"	1.15	0.46	0.62	0.04	----
32051	3/16" x 1/8"	1.10	0.68	0.50	0.02	----
32062	3/16" x 1/4"	1.44	0.75	0.62	0.04	----
32052	1/4" x 1/8"	1.35	0.93	0.50	0.02	----
32053	1/4" x 1/4"	1.60	0.97	0.62	0.06	----
32054	1/4" x 3/8"	1.65	1.03	0.75	0.04	----
32441	1/4" x 1/2"	1.66	0.97	0.93	0.08	----
32055	5/16" x 1/8"	1.47	0.97	0.56	0.04	----
32056	5/16" x 1/4"	1.66	0.97	0.62	0.04	----
32318	5/16" x 3/8"	1.66	0.97	0.75	0.06	----
32320	5/16" x 1/2"	1.67	0.96	0.93	0.08	----
32057	3/8" x 1/8"	1.47	0.97	0.56	0.04	----
32058	3/8" x 1/4"	1.61	0.97	0.62	0.06	----
32059	3/8" x 3/8"	1.63	1.00	0.81	0.08	----
32063	3/8" x 1/2"	1.72	0.94	0.93	0.12	----
32442	3/8" x 3/4"	1.97	0.97	1.18	0.20	----
32449	1/2" x 1/8"	1.51	0.98	0.56	0.06	----
32064	1/2" x 1/4"	1.66	0.96	0.62	0.08	----
32060	1/2" x 3/8"	1.66	0.97	0.75	0.08	----
32061	1/2" x 1/2"	1.76	0.96	0.93	0.12	----
32443	1/2" x 3/4"	1.97	0.97	1.18	0.26	----
32444	5/8" x 3/8"	1.66	0.97	0.75	0.08	----
32445	5/8" x 1/2"	1.66	0.97	0.93	0.10	----
32446	5/8" x 3/4"	1.97	0.97	1.18	0.21	----
32447	3/4" x 1/2"	1.88	1.19	0.93	0.13	----
32065	3/4" x 3/4"	2.19	1.21	1.18	0.22	----
32049	1" x 3/4"	2.19	1.19	1.18	0.26	----
32321	1" x 1"	2.32	1.19	1.44	0.35	----
32448	1-1/4" x 1"	2.32	1.19	1.43	0.44	----

209A 128 29A 29F 126HB 126 FPB 105B-2 KF-RS 104 144

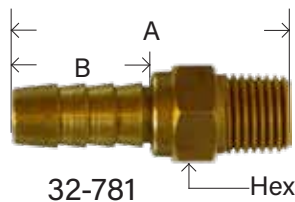
### SWIVEL FEMALE ADAPTER NPTF



PART #	HOSE I.D. X FEMALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32470	1/4" x 1/4"	1.80	0.97	0.62	0.06	----
32472	3/8" x 1/4"	1.80	0.97	0.62	0.06	----
32473	3/8" x 3/8"	1.82	0.97	0.75	0.09	----
32475	1/2" x 3/8"	1.82	0.97	0.75	0.09	----
32476	1/2" x 1/2"	1.86	0.97	0.93	0.14	----

### HIGH VOLUME MALE SWIVEL

- 300 PSI • Nitrile Buna (NBR) O-Ring



PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
32781	3/8" x 1/4"	1.83	0.87	0.62	0.07	----
28415	1/4" x 1/4"	1.30	0.94	0.81	0.14	----
28417	3/8" x 1/4"					



28-415 & 28-417

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

4065



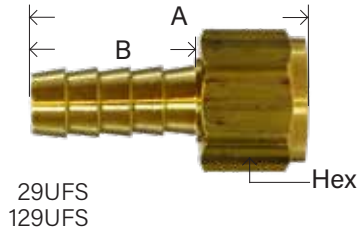
BRASS

**HOSE BARB**

## BRASS FITTINGS

**SWIVEL FEMALE ADAPTER - WITH GASKET**

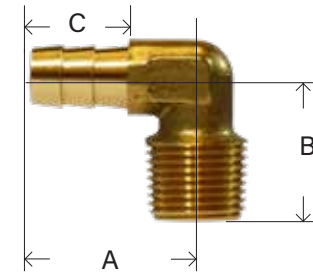
- NPSM Thread  
National Pipe Straight Gasket Seal Swivel



- Not recommend for water due to fiber gasket - for air service only.

PART #	HOSE I.D. X FEMALE NPSM	A	B	HEX	APPROX. WT. LBS.	
32131	1/8" x 1/8"	0.90	0.46	0.50	0.02	----
32132	3/16" x 1/8"	1.19	0.75	0.50	0.03	----
32133	3/16" x 1/4"	1.28	0.75	0.62	0.04	----
32120	1/4" x 1/8"	1.41	0.97	0.50	0.02	----
32121	1/4" x 1/4"	1.50	0.97	0.62	0.02	----
32129	1/4" x 3/8"	1.63	0.97	0.75	0.04	----
32130	5/16" x 1/4"	1.50	0.97	0.62	0.04	----
32122	3/8" x 1/4"	1.54	1.00	0.62	0.06	----
32123	3/8" x 3/8"	1.60	0.97	0.75	0.06	----
32354	3/8" x 1/2"	1.66	0.97	0.93	0.10	----
32124	1/2" x 3/8"	1.60	0.97	0.75	0.08	----
32125	1/2" x 1/2"	1.66	0.97	0.93	0.12	----
32117	1/2" x 3/4"	1.82	1.19	1.18	0.16	----
32118	5/8" x 3/4"	1.82	1.19	1.18	0.18	----
32119	3/4" x 3/4"	1.82	1.19	1.18	0.14	----

130 126 29F5G KF-RN NPSM Gasket Seat

**FORGED HOSE BARB 90° ELBOW**

32-330

\*\*Square Barstock Body

PART #	HOSE I.D. X MALE NPTF	A	B	C	BODY SIZE	APPROX. WT. LBS.	
32308	3/16" x 1/8"	0.95	0.70	0.66	0.37	0.02	----
32391	3/16" x 1/4"	1.00	0.84	0.63	0.46	0.10	----
32038 *	1/4" x 1/8"	1.01	0.81	0.71	0.47	0.06	----
32039 *	1/4" x 1/4"	1.01	0.87	0.63	0.47	0.06	----
32309 **	1/4" x 3/8"	1.08	0.97	0.73	0.69	0.12	----
32036	5/16" x 1/8"	1.01	0.81	0.63	0.47	0.04	----
32040	5/16" x 1/4"	1.01	0.87	0.63	0.47	0.06	----
32310	5/16" x 3/8"	1.06	0.94	0.63	0.50	0.06	----
32046 *	3/8" x 1/8"	1.01	0.81	0.63	0.47	0.06	----
32041 *	3/8" x 1/4"	1.02	0.88	0.65	0.47	0.06	----
32042 *	3/8" x 3/8"	1.09	0.93	0.68	0.50	0.08	----
32047 *	3/8" x 1/2"	1.11	1.09	0.63	0.59	0.10	----
32048	1/2" x 1/4"	1.06	1.00	0.68	0.59	0.10	----
32043 *	1/2" x 3/8"	1.06	1.09	0.69	0.59	0.10	----
32311 *	1/2" x 1/2"	1.31	1.19	0.87	0.56	0.12	----
32044	5/8" x 3/8"	1.12	1.06	0.61	0.56	0.12	----
32045	5/8" x 1/2"	1.12	1.12	0.68	0.63	0.14	----
32312	5/8" x 3/4"	1.46	1.26	0.93	1.06	0.32	----
32313	3/4" x 1/2"	1.31	1.28	0.87	0.85	0.22	----
32314 *	3/4" x 3/4"	1.46	1.26	0.91	1.06	0.32	----
32330 **	3/4" x 1"	1.57	1.64	0.90	1.34	0.64	----
32315	1" x 3/4"	1.60	1.40	0.95	1.06	0.32	----
32319	1" x 1"	1.69	1.64	0.98	1.30	0.43	----

129 HBE1 KF-PS90 HE-1 29E 146



\* Add SS to the end of the part number for Stainless. See page 27.

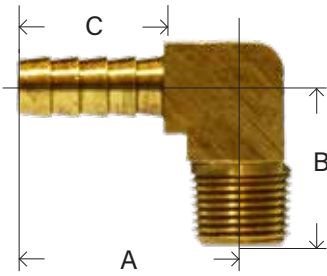
Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE BARB

## BRASS FITTINGS

### BARSTOCK HOSE BARB 90° ELBOW

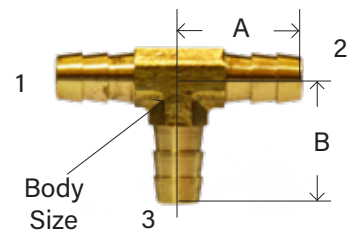


29EBS

PART #	HOSE I.D. X MALE NPTF	A	B	C	BODY SIZE	APPROX. WT. LBS.	
32038B	1/4" X 1/8"	1.00	0.75	0.75	0.50	0.02	----
32039B	1/4" X 1/4"	1.02	0.91	0.74	0.56	0.04	----
32309B	1/4" X 3/8"	1.19	0.84	0.76	0.58	0.09	----
32036B	5/16" X 1/8"	1.06	0.66	0.76	0.44	0.04	----
32040B	5/16" X 1/4"	1.12	0.84	0.76	0.58	0.07	----
32310B	5/16" X 3/8"	1.19	0.84	0.76	0.72	0.09	----
32046B	3/8" X 1/8"	1.32	0.94	0.97	0.58	0.06	----
32041B	3/8" X 1/4"	1.32	0.89	0.97	0.58	0.08	----
32042B	3/8" X 3/8"	1.50	1.06	0.97	0.75	0.14	----
32047B	3/8" X 1/2"	1.52	1.25	0.97	0.90	0.26	----
32048B	1/2" X 1/4"	1.53	1.06	0.97	0.72	0.12	----
32043B	1/2" X 3/8"	1.53	1.07	0.97	0.72	0.16	----
32311B	1/2" X 1/2"	1.53	1.25	0.97	0.90	0.26	----
32314B	3/4" X 3/4"	1.33	1.27	0.97	1.10	0.32	----

129HB

### HOSE BARB TEES



Body Size



29T  
129T

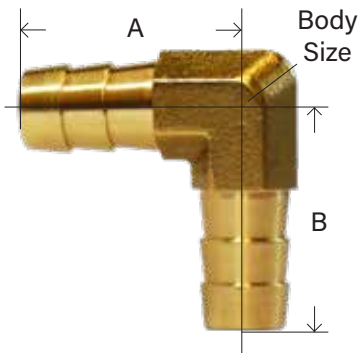
32-128

PART #	HOSE BARB SIZE (1 & 2) X 3	A	B	BODY SIZE	APPROX. WT. LBS.	
32367 *	1/8"	0.84	0.83	0.25	0.02	----
32368	3/16"	1.02	1.02	0.37	0.03	----
32365 **	1/4"	1.00	1.00	0.44	0.06	----
32350 *	(1/4") x 1/8"	0.94	0.94	0.44	0.04	----
32366	5/16"	1.00	1.00	0.44	0.06	----
32126 **	3/8"	1.01	1.01	0.43	0.06	----
32400 *	1/2"	1.02	1.00	0.43	0.08	----
32352 *	(1/2") x 3/8"	1.26	1.26	0.43	0.10	----
32361	5/8"	1.26	1.26	0.75	0.16	----
32363	3/4"	1.45	1.45	0.90	0.18	----
32353	(3/4") x 1/2"	1.41	1.41	0.88	0.23	----
32128 *	3/8"HB x 1/4" MIP	1.00	0.94	0.43	0.06	----

\* Add SS to the end of the part number for Stainless.

**T** \*\* See page 29 for stainless steel.

### 90° HOSE BARB ELBOW



PART #	HOSE I.D. X HOSE I.D.	A	B	BODY SIZE	APPROX. WT. LBS.	
32429	1/8" x 1/8"	0.55	0.55	0.37	0.03	----
32433	3/16" x 3/16"	0.90	0.90	0.37	0.03	----
32412	1/4" x 1/8"	1.02	1.02	0.44	0.04	----
32413 *	1/4" x 1/4"	1.01	1.01	0.44	0.04	----
32425	5/16" x 5/16"	1.15	1.15	0.48	0.05	----
32414	3/8" x 1/8"	1.01	1.01	0.44	0.04	----
32415	3/8" x 1/4"	1.00	1.00	0.44	0.04	----
32416 *	3/8" x 3/8"	1.02	1.02	0.44	0.04	----
32417	3/8" x 1/2"	1.24	1.10	0.50	0.06	----
32418	1/2" x 1/4"	1.24	1.08	0.50	0.06	----
32419	1/2" x 3/8"	1.22	1.09	0.50	0.06	----
32420 *	1/2" x 1/2"	1.24	1.24	0.50	0.06	----
32434	5/8" x 5/8"	1.20	1.20	0.75	0.16	----
32435	3/4" x 1/2"	1.41	1.41	0.88	0.21	----
32436	3/4" x 3/4"	1.41	1.41	0.88	0.21	----

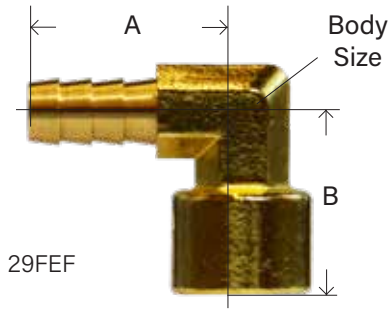
\* Add SS to the end of the part number for Stainless.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

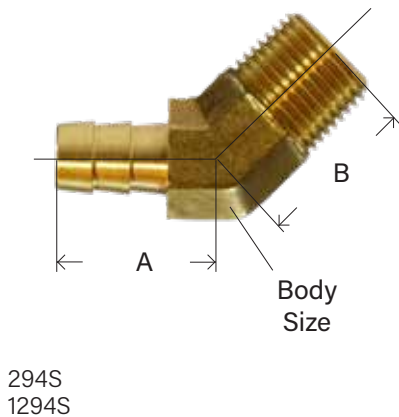


**HOSE BARB**

## BRASS FITTINGS

**90° FEMALE HOSE BARB ELBOW**

PART #	HOSE I.D. X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
32401	1/4" x 1/8"	1.01	0.82	0.47	0.06	----
32402	1/4" x 1/4"	1.13	0.91	0.56	0.10	----
32403	3/8" x 1/8"	1.01	0.82	0.47	0.06	----
32404	3/8" x 1/4"	1.15	0.91	0.56	0.10	----
32405	3/8" x 3/8"	1.15	1.11	0.68	0.14	----
32406	3/8" x 1/2"	1.26	1.39	0.75	0.20	----
32407	1/2" x 1/4"	1.26	0.91	0.56	0.10	----
32410	1/2" x 3/8"	1.24	1.11	0.68	0.14	----
32411	1/2" x 1/2"	1.37	1.39	0.75	0.20	----
32409	3/4" x 3/4"	1.52	1.75	0.81	0.50	----

**45° ELBOW**

PART #	HOSE I.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
32110	1/4" x 1/8"	0.91	0.62	0.53	0.04	----
32109*	1/4" x 1/4"	1.00	0.62	0.57	0.06	----
32111	3/8" x 1/8"	0.83	0.66	0.53	0.04	----
32112	3/8" x 1/4"	0.82	0.84	0.53	0.06	----
32113	3/8" x 3/8"	0.93	0.87	0.59	0.08	----
32346	1/2" x 1/4"	1.00	0.84	0.59	0.08	----
32114	1/2" x 3/8"	1.00	0.88	0.59	0.08	----
32116	1/2" x 1/2"	1.15	0.94	0.59	0.12	----
32115	5/8" x 3/8"	0.97	0.88	0.59	0.10	----
32345	3/4" x 1/2"	1.15	0.94	0.81	0.13	----

\* Barstock

140 HE145 139HB KF-PS45 13945

**CROSSES**

PART #	HOSE ID	
32608	1/4	----
32609	5/16	----
32610	3/8	----

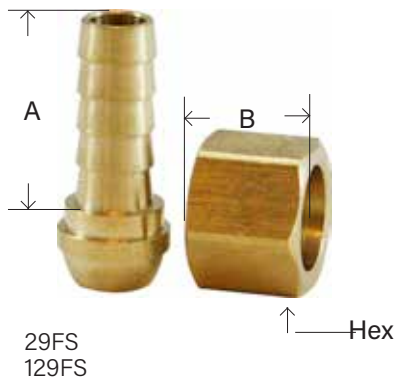
Hose Wyes available with extended lead time.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE BARB

## BRASS FITTINGS

### BALL END SWIVEL NPSM - Ball seat type

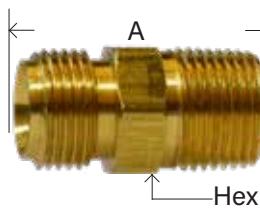


PART #	HOSE I.D. X NPSM	A	B	HEX	APPROX. WT. LBS.	
32066	1/8" x 1/8"	0.46	0.44	0.50	0.03	----
32067	3/16" x 1/8"	0.75	0.44	0.50	0.03	----
32068	3/16" x 1/4"	0.75	0.52	0.62	0.04	----
32962	3/16" x 3/8"	0.75	0.63	0.75	0.05	----
32069	1/4" x 1/8"	0.97	0.44	0.50	0.04	----
32070	1/4" x 1/4"	0.97	0.53	0.62	0.06	----
32078	1/4" x 3/8"	0.97	0.63	0.75	0.06	----
32071	5/16" x 1/4"	0.97	0.52	0.62	0.05	----
32389	5/16" x 3/8"	0.97	0.63	0.75	0.07	----
32072	3/8" x 1/4"	0.97	0.53	0.62	0.06	----
32073	3/8" x 3/8"	0.97	0.59	0.75	0.08	----
32074	3/8" x 1/2"	0.97	0.69	0.94	0.14	----
32075	1/2" x 3/8"	0.97	0.59	0.75	0.08	----
32076	1/2" x 1/2"	0.97	0.69	0.94	0.10	----
32077	3/4" x 3/4"	0.97	0.70	1.12	0.14	----

128HBLV 29FS 209AS 124 131

### BALLSEAT MALE ADAPTER

Beveled seat

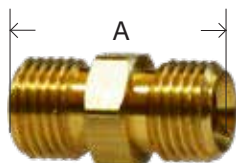


30° Seat

PART #	NPSM X MALE NPTF	A	HEX	APPROX. WT. LBS.	
32359	1/8" x 1/8"	0.94	0.43	0.03	----
32034	1/4" x 1/8"	1.06	0.56	0.04	----
32030	1/4" x 1/4"	1.25	0.56	0.06	----
32362	3/8" x 1/4"	1.28	0.68	0.08	----
32031	3/8" x 3/8"	1.30	0.68	0.08	----
32392	3/8" x 1/2"	1.47	0.88	0.13	----
32364	1/2" x 3/8"	1.35	0.87	0.10	----
32032	1/2" x 1/2"	1.53	0.87	0.14	----
32033	3/4" x 3/4"	1.53	1.06	0.20	----

172 134 127HB 122AS

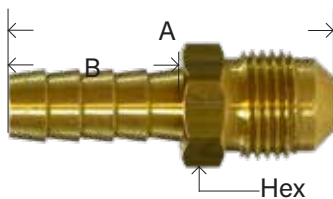
### BALLSEAT UNION



30° Seat

PART #	NPSM X NPSM	A	HEX	APPROX. WT. LBS.	
32460	1/8"	0.79	0.43	0.02	----
32461	1/4"	1.09	0.56	0.04	----
32462	3/8"	1.19	0.68	0.07	----
32463	1/2"	1.31	0.87	0.10	----

### 45° FLARE ADAPTER



29SAE  
129SAE

PART #	HOSE I.D. X 45° FLARE	THREAD	A	B	HEX	APPROX. WT. LBS.	
32322	3/16" x 1/4"	7/16-20	1.5	0.75	0.43	0.03	----
32081 *	1/4" x 1/4"	7/16-20	1.72	0.97	0.43	0.03	----
32082 *	1/4" x 3/8"	5/8-18	1.82	0.97	0.62	0.07	----
32083	5/16" x 5/16"	1/2-20	1.75	0.97	0.50	0.08	----
32084 *	3/8" x 3/8"	5/8-18	1.82	0.97	0.62	0.08	----
32085	3/8" x 1/2"	3/4-16	1.97	0.97	0.75	0.10	----
32086	1/2" x 1/2"	3/4-16	1.97	0.97	0.75	0.10	----

\* Add SS to the end of the part number for Stainless. 142 201BF KF-MS KDS

### COMPRESSION ADAPTER - BARB X MALE COMPRESSION



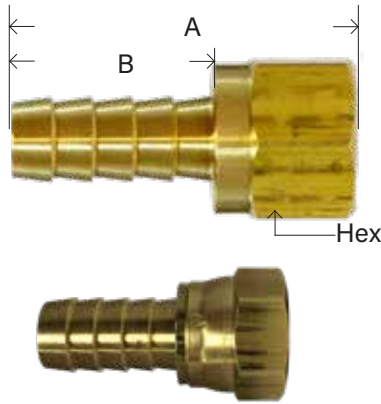
PART #	SIZE	
18534	1/4" x 1/4"	

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**HOSE BARB**

## BRASS FITTINGS

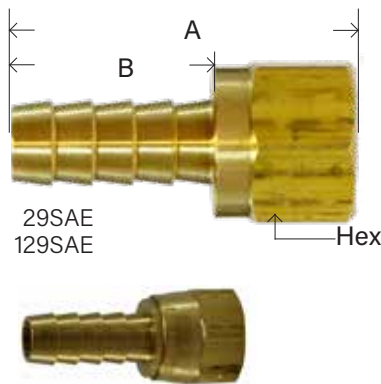
**DUAL 45°/ 37° FLARE SWIVEL**

CRIMP STYLE

PART #	HOSE ID X DUAL SEAT	THREAD	A	B	HEX	APPROX. WT. LBS.	
32107	3/16" x 1/4"	7/16-20	1.34	0.75	0.56	0.04	----
32107C**	3/16" X 1/4"	7/16-20	1.42	0.78	0.56	0.04	----
32337	1/4" x 1/4"	7/16-20	1.56	0.97	0.56	0.04	----
32337C**	1/4" X 1/4"	7/16-20	1.60	0.97	0.56	0.04	----
32102	1/4" x 5/16"	1/2-20	1.61	0.97	0.62	0.06	----
32339	5/16" x 5/16"	1/2-20	1.60	0.97	0.62	0.06	----
32340	3/8" x 1/2"	3/4-16	1.68	0.97	0.87	0.10	----
32341	1/2" x 1/2"	3/4-16	1.68	0.97	0.87	0.10	----
32341C**	1/2" X 1/2"	3/4-16	1.75	0.97	0.87	0.09	----
32342	1/2" x 5/8"	7/8-14	1.76	0.97	1.00	0.12	----
32394**	5/8" x 5/8"	7/8-14	1.83	0.97	1.00	0.14	----

\*\* Swivel crimp style

KDS

**FEMALE 45° FLARE SWIVEL**29SAE  
129SAE

CRIMP STYLE

PART #	HOSE I.D. X FEMALE 45° FLARE	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
32326	3/16" x 3/16"	3/8-24	1.19	0.75	0.43	0.04	----
30295**	3/16" x 3/8"	5/8-18	1.82	0.90	0.75	0.04	----
32101	1/4" x 1/4"	7/16-20	1.57	0.97	0.56	0.04	----
32103	1/4" x 3/8"	5/8-18	1.64	0.97	0.75	0.08	----
32104	5/16" x 5/16"	1/2-20	1.61	0.97	0.62	0.05	----
32327	5/16" x 3/8"	5/8-18	1.67	0.97	0.75	0.08	----
32105	3/8" x 3/8"	5/8-18	1.64	0.97	0.75	0.08	----
32105C**	3/8" x 3/8"	5/8-18	1.71	0.97	0.75	0.07	----
32106	3/8" x 1/2"	3/4-16	1.81	0.97	0.87	0.10	----
32100	1/2" x 1/2"	3/4-16	1.68	0.97	0.87	0.12	----
32328	3/4" x 3/4"	1-1/16-14	2.00	0.97	1.25	0.20	----

29SAE 209ASF 146HBLFSV KF-NS 128 FSS 146 144

\*\* Swivel crimp style (crimped on the outside of fitting )

**FEMALE 37° J.I.C. FLARE SWIVEL**

CRIMP STYLE

STAINLESS  
STEEL

32338SS

PART #	HOSE ID X FEMALE 37° FLARE	THREAD	A	B	HEX	APPROX. WT. LBS.	
32334	1/4" x 3/8"	9/16-18	1.60	0.97	0.68	0.06	----
32335	5/16" x 3/8"	9/16-18	1.60	0.97	0.68	0.06	----
32336	3/8" x 3/8"	9/16-18	1.60	0.97	0.68	0.10	----
32336C**	3/8" X 3/8"	9/16-18	1.66	0.97	0.68	0.06	----
32338*	3/4" x 3/4"	1-1/16-12	2.00	0.97	1.25	0.20	----
32338SS	3/4" x 3/4"	1-1/16-12	2.00	0.97	1.25	0.24	----
32338C	3/4" x 3/4"	1-1/16-12	2.13	1.19	1.25	0.20	----
32397**	1" x 1"	1-5/16-12	2.31	1.19	1.50	0.33	----

KJS

\*Available in swivel crimp style - add a "C" at the end of the part # ( 100 piece minimum )

\*\* Swivel crimp style

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## REUSABLE BRASS FITTINGS

### REUSABLE MALE FITTINGS



29RU17

PART #	HOSE ID	HOSE OD	MALE NPTF	
32727	1/4"	1/2"	1/4"	----
32728	1/4"	9/16"	1/4"	----
32726	1/4"	5/8"	1/4"	----
32741	5/16"	5/8"	1/4"	----
32742	3/8"	5/8"	1/4"	----
32744	3/8"	11/16"	1/4"	----
32725	3/8"	3/4"	1/4"	----
32747	3/8"	5/8"	3/8"	----
32750	3/8"	11/16"	3/8"	----
32746	1/2"	7/8"	1/2"	----

### REUSABLE FEMALE SWIVEL STEMS



PART #	HOSE ID	FEMALE NPSM	
32770	1/4"	1/4"-18	----
32771	3/8"	3/8"-18	----

### REUSABLE FEMALE SWIV-



29RU16

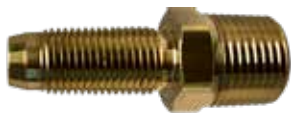
PART #	HOSE ID	HOSE OD	FEMALE NPSM	
32772	1/4"	1/2"	1/4"	----
32773	3/8"	5/8"	3/8"	----
32774	3/8"	11/16"	3/8"	----
32775	1/2"	7/8"	1/2"	----

### REUSABLE FERRULES



PART #	HOSE ID	HOSE OD	
32749	1/4"	1/2"	----
32751	1/4"	9/16"	----
32752	1/4"	5/8"	----
32753	3/8"	5/8"	----
32754	3/8"	11/16"	----
32755	3/8"	3/4"	----
32756	1/2"	7/8"	----

### REUSABLE MALE STEMS



PART #	HOSE ID	MALE NPT THREAD	
32758	1/4"	1/4"	----
32759	3/8"	1/4"	----
32760	3/8"	3/8"	----
32761	1/2"	1/2"	----

obstacles are things a person sees when he takes his eyes off his goal.

- E. Joseph Cossman

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**HOSE BARB**

## BRASS FITTINGS

**BRASS FUEL HOSE BARBS**

**Typical Application:** Low pressure air, fuel and oil applications. Generally used for automotive, light truck, and small engine fuel lines. Use with fuel hose SAE 30R7 & SAE 30R9.

**Advantages:** Easy to assemble, just push the fitting into the hose & clamp. Good selection of configurations at reasonable cost.

**MALE CONNECTOR**  
HOSE BARB X MALE PIPE



159  
29SB

PART #	HOSE ID	MIP	IND #	
38800	3/16	1/8	1541	----
38802	1/4	1/8	1537	----
32377	1/4	1/4	1581	----
38806	5/16	1/8	1551	----
38808	5/16	1/4	1555	----
38810	3/8	1/8	1565	----
32381	3/8	1/4	1564	----
32382	3/8	3/8	1566	----
32383	1/2	3/8		----
32384	1/2	1/2		----
32385	5/8	1/2	1431	----
32387	3/4	1/2	1430	----
32388	3/4	3/4		----

68HB

**BUBBLE BARB MALE ADAPTER**

BUBBLE X MIP



PART #	BUBBLE X MIP	
32176	3/8 x 3/8	----
32177	1/2 x 1/4	----
32178	1/2 x 3/8	----
32179	1/2 x 1/2	----
32182	5/8 x 3/8	----
32183	5/8 x 1/2	----
32184	3/4 x 1/2	----
32180	3/4 x 3/4	----
32185	1 x 3/4	----
32181	1 x 1	----

**INVERTED FLARE MALE CONNECTOR**

HOSE BARB X INVERTED FLARE

159IN  
291FSB



PART #	HOSE ID	INV. FLARE	IND #	
38828	5/16	1/4	1598	----
38830	5/16	5/16	1560	----
38832	5/16	3/8	1561	----
38834	3/8	5/16	1568	----
38836	3/8	3/8	1570	----

269HB

**90° MALE ELBOW**

HOSE BARB X MALE PIPE

29ESB



PART #	HOSE ID	MIP	IND #	
38860	1/4	1/8	1582	----
38862	5/16	1/8	1556	----
38864	5/16	1/4	1557	----
38866	3/8	1/8	1572	----
38868	3/8	1/4	1571	----

**BUBBLE BARB**

159E



PART #	HOSE ID	MIP	
32186	3/8	3/8	----
32194	1/2	1/4	----
32187	1/2	3/8	----
32191	1/2	1/2	----
32195	5/8	1/4	----
32188	5/8	3/8	----
32189	5/8	1/2	----
32190	3/4	1/2	----
32192	3/4	3/4	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# WELDED HOSE FITTINGS

## BRASS FITTINGS

### INVERTED FLARE MALE SWIVEL 90° ELBOW

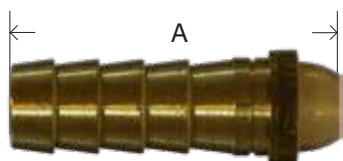
HOSE BARB X TUBE O.D.



Part #	Hose ID	Inv. Flare	Ind #	
38873	5/16	5/16	1405	----
38874	3/8	3/8	1407	----

## WELDED HOSE FITTINGS

### STEM ONLY - WELDING HOSE CONNECTOR

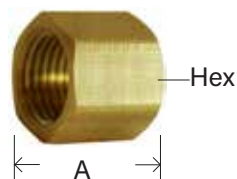


PART #	HOSE I.D.	A	APPROX. WT. LBS.	
30410	3/16"	1.43	0.02	----
30411	1/4"	1.43	0.02	----
30413	3/8"	1.43	0.04	----

Assemble with nuts below.

201RWA WRS WLS

### RIGHT HAND 9/16 - 18 FOR OXYGEN LINE - WELDING HOSE NUT

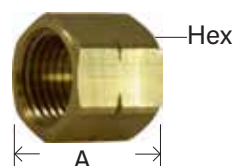


PART #	SIZE	A	HEX	APPROX. WT. LBS.	
30420	R.H. Nut only	0.63	0.68	0.04	----

Assemble with stem above.

201RWA WRS KF-PE 152

### LEFT HAND 9/16 - 18 FOR ACETYLENE LINE - WELDING HOSE NUT

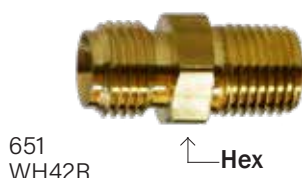


PART #	SIZE	A	HEX	APPROX. WT. LBS.	
30421	L.H. Nut only	0.63	0.68	0.04	----

Assemble with stem above.

209LWA WLS 154 KF-RE

### RIGHT HAND 9/16 - 18 #122RWA - WELDING HOSE CONNECTOR



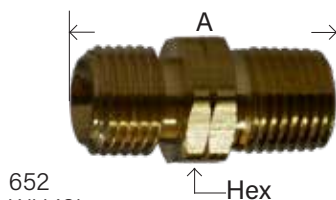
651  
WH42R

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
30401	1/4"-18	1.30	0.62	0.06	----
32437	3/8"-18	1.30	0.68	0.09	----
32438*	9/16"-18	1.25	0.68	0.07	----

\* Right UNF thread

156

### LEFT HAND 9/16 - 18 #122LWA - WELDING HOSE CONNECTOR



652  
WH42L

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
30406	1/4"-18	1.30	0.62	0.06	----
32439	3/8"-18	1.30	0.68	0.09	----
32440*	9/16"-18	1.25	0.68	0.07	----

\* Left UNF thread

158

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS

# BARBED FOR PLASTIC TUBING

## BRASS FITTINGS

### BRASS BARBS FOR POLYETHYLENE TUBING

• Quick connecting fittings that do not require tube preparations for hand assembly. Inexpensive with excellent resistance to vibration.

	.25	.375	.50
<b>OD</b>	<b>1/4</b>	<b>3/8</b>	<b>1/2</b>
<b>ID</b>	<b>1/8</b>	<b>1/4</b>	<b>3/8</b>
	.125	.25	.375

### UNION

29MBS



TUBE O.D. (TUBE I.D.) X TUBE O.D. (TUBE I.D.)

PART #	SIZE	
21003	1/4(1/8) x 1/4(1/8)	----
21007	3/8(1/4) x 1/4(1/8)	----
21009	3/8(1/4) x 3/8(1/4)	----

### MALE ADAPTER

29MB



TUBE O.D. (TUBE I.D.) X MALE PIPE

PART #	SIZE	
21021	1/4(1/8) x 1/16	----
21023	1/4(1/8) x 1/8	----
21025	1/4(1/8) x 1/4	----
21027	3/8(1/4) x 1/8	----

1068 968 688

### FEMALE ADAPTER

29FMB



TUBE O.D. (TUBE I.D.) X FEMALE PIPE

PART #	SIZE	
21043	1/4(1/8) x 1/8	----
21046	3/8(1/4) x 1/4	----
21049	1/2(3/8) x 3/8	----

1066 966 26 668

### BULKHEAD UNION

29MBHS



TUBE O.D. (TUBE I.D.)

PART #	SIZE	
21082	1/4(1/8)	----
21083	3/8(1/4)	----
21084	1/2(3/8)	----

1074

### UNION ELBOW

1065  
965

29BEMB

TUBE O.D. (I.D.)

PART #	SIZE	
21095	1/4(1/8)	----
21097	3/8(1/4)	----
21099	1/2(3/8)	----

### MALE 90° ELBOW

29MBE



TUBE O.D. (I.D.) X MALE PIPE

PART #	SIZE	
21109	1/8" x 1/4-28"	----
21111	1/4(1/8) x 1/16	----
21113	1/4(1/8) x 1/8	----
21115	1/4(1/8) x 1/4	----
21117	3/8(1/4) x 1/8	----
21119	3/8(1/4) x 1/4	----
21121	1/2(3/8) x 3/8	----

1069 969 229

### FEMALE 90° ELBOW

29MBFE



TUBE O.D. (I.D.) X FEMALE PIPE

PART #	SIZE	
21133	1/4(1/8) x 1/8	----

1070 970 230

### UNION TEE

29MBT



O.D. (I.D.) X O.D. (I.D.) X O.D. (I.D.)

PART #	SIZE	
21151	1/4(1/8)	----
21153	3/8(1/4) X 3/8(1/4) X 1/4(1/8)	----
21155	3/8(1/4)	----
21159	1/2(3/8) X 1/2(3/8) X 3/8(1/4)	----
21161	1/2(3/8)	----

1064 964 224

### MALE BRANCH TEE

3

29MRMT



O.D. (I.D.) X O.D. (I.D.) X MALE PIPE

PART #	SIZE	
21193	1/4(1/8) x 1/4(1/8) x 1/8	----
21195	3/8(1/4) x 3/8(1/4) x 1/8	----

1072 972 232

### FEMALE BRANCH TEE

3

29MBPT



O.D. (I.D.) X O.D. (I.D.) X FEMALE PIPE

PART #	SIZE	
21207	1/4(1/8) x 1/4(1/8) x 1/8	----

1077 978

### TWO BARB FITTINGS

More Sizes Available - Please Ask!

	.25	.375	.50
<b>OD</b>	<b>1/4</b>	<b>3/8</b>	<b>1/2</b>
<b>ID</b>	<b>1/8</b>	<b>1/4</b>	<b>3/8</b>
	.17	.25	.375

### MALE ADAPTER PIPE



TUBE O.D. (I.D.) X MALE PIPE

PART #	SIZE	
32150	1/4(1/8) x 1/8	----
32151	1/4(1/8) x 1/4	----
32153	3/8(1/4) x 1/4	----

28

### UNION TEE

PART #	TUBE O.D. (I.D.)	
32159	1/4(1/8 ID)	----
32160	3/8(1/4 ID)	----

### 90° ELBOW

PART #	TUBE O.D. (I.D.)	
32170	1/4(1/8 ID)	----
32171	3/8(1/4 ID)	----

225

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BARSTOCK/ CAST SS HOSE BARB

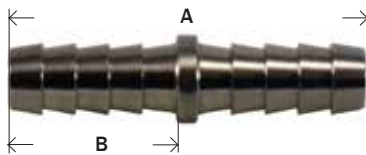
## BRASS FITTINGS

### 316 STAINLESS STEEL MACHINED RIGID MALE ADAPTER



PART #	HOSE I.D. X NPT	
32001SS	1/8" x 1/8"	----
32002SS	3/16" x 1/8"	----
32003SS	3/16" x 1/4"	----
32004SS	1/4" x 1/8"	----
32005SS	1/4" x 1/4"	----
32006SS	1/4" x 3/8"	----
32008SS	5/16" x 1/8"	----
32009SS	5/16" x 1/4"	----
32010SS	5/16" x 3/8"	----
32011SS	3/8" x 1/8"	----
32012SS	3/8" x 1/4"	----
32013SS	3/8" x 3/8"	----
32014SS	3/8" x 1/2"	----
32015SS	1/2" x 1/4"	----
32016SS	1/2" x 3/8"	----
32017SS	1/2" x 1/2"	----
32018SS	1/2" x 3/4"	----
32019SS	5/8" x 3/8"	----
32020SS	5/8" x 1/2"	----
32021SS	5/8" x 3/4"	----
32022SS	3/4" x 1/2"	----
32023SS	3/4" x 3/4"	----
32024SS	1" x 3/4"	----

### 316 STAINLESS STEEL SPLICER



PART #	HOSE I.D. X HOSE I.D.	A	B	
32091SS	1/8"			----
32093SS	1/4"	2.03	0.97	----
32094SS	5/16"			----
32095SS	3/8"	2.06	0.97	----
32096SS	1/2"	2.06	0.97	----
32098SS	3/4"	2.50	1.19	----

### 316 STAINLESS STEEL BARB ELBOW



PART #	HOSE I.D. X NPT	
32038SS	1/4 x 1/8	----
32039SS	1/4 x 1/4	----
32041SS	3/8 x 1/4	----
32042SS	3/8 x 3/8	----
32043SS	1/2" x 3/8"	----
32311SS	1/2 x 1/2	----
32314SS	3/4" x 3/4"	----

### 304 STAINLESS STEEL HOSE NIPPLES



• Cast

PART #	HOSE I.D. X MALE PIPE	
73951	1/4"	----
73952	3/8"	----
73953	1/2"	----
73954	3/4"	----
73955	1"	----
73956	1-1/4"	----
73957	1-1/2"	----
73958	2"	----
73959	2-1/2"	----
73960	3"	----

### 304 STAINLESS STEEL REDUCING HOSE NIPPLES



• Cast

PART #	HOSE I.D. X MALE PIPE	
73970	1/4" X 1/8"	----
73971	3/8" X 1/4"	----
73972	1/2" X 3/8"	----
73973	1/2" X 1/4"	----
73974	3/4" X 1/2"	----
73975	1" X 3/4"	----
73976	1" X 1/2"	----
73977	1-1/4" X 1"	----
73979	1-1/2" X 1-1/4"	----
73980	1-1/2" X 1"	----
73981	2" X 1-1/2"	----
73982	2" X 1-1/4"	----

### 316 STAINLESS STEEL HOSE NIPPLES



• Cast

PART #	HOSE I.D. X MALE PIPE	
973951	1/4"	----
973952	3/8"	----
973953	1/2"	----
973954	3/4"	----
973955	1"	----
973956	1-1/4"	----
973957	1-1/2"	----
973958	2"	----
973959	2-1/2"	----
973990	3"	----
973991	4"	----



• See King nipples on page 312

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**BEVERAGE FITTINGS**

## BRASS FITTINGS

**BARB TO MALE PIPE ADAPTER**STAINLESS  
STEEL

PART #	SIZE	
34587	1/4" x 1/8"	----
34588	1/4" x 1/4"	----
34589	1/4" x 3/8"	----
34590	3/8" x 1/8"	----
34591	3/8" x 1/4"	----
34592	3/8" x 3/8"	----
34595	3/8" x 1/2"	----
34597	1/2" x 3/4"	----

**BARB TO MALE FLARE ADAPTER**STAINLESS  
STEEL**HOSE ID X 45° FLARE**

PART #	SIZE	
34579	1/4" x 1/4"	----
34586	1/4" x 5/16"	----
34584	1/4" x 3/8"	----
34580	1/4" x 1/2-16"	----
34583	3/8" x 1/4"	----
34585	3/8" x 3/8"	----
34581	3/8" x 1/2-16"	----

**FEMALE FLARE SWIVEL SETS**STAINLESS  
STEEL

PART #	SIZE	
34501	1/4" x 1/4"	----
34502	5/16" x 1/4"	----
34504	3/8" x 3/8"	----

**ONE PIECE SWIVEL BARB X FE.**STAINLESS  
STEEL

PART #	SIZE	
34510	3/8" x 1/4"	----

**HOSE SPLICER (STRAIGHT)**STAINLESS  
STEEL**ID HOSE**

PART #	SIZE	
34532	3/16"	----
34533	1/4"	----
34534	1/4" x 3/16"	----
34536	5/16"	----
34537	5/16" x 1/4"	----
34535	3/8"	----
34538	3/8" x 3/16"	----
34543	3/8" x 1/4"	----
34539	3/8" x 5/16"	----
34540	1/2" x 3/8"	----

**THINWALL SPLICERS**STAINLESS  
STEEL

PART #	SIZE	
34533T	1/4"	----
34535T	3/8"	----
34541T	1/2"	----
34540T	1/2" x 3/8"	----
34543T	3/8" x 1/4"	----

**PLUG**STAINLESS  
STEEL

PART #	SIZE	
34572	1/4"	----
34574	3/8"	----

**THINWALL**

PART #	SIZE	
34572T	1/4"	----
34574T	3/8"	----

**BARB X COMPRESSION**STAINLESS  
STEEL

PART #	SIZE	
34625	1/4" x 3/8"	----
34626	3/8" x 3/8"	----

**PLATED BRASS SPLICERS**

ID SIZES

VINYL TUBE ID/ PL. TUBE ID



PART #	SIZE	
34725	3/16"/1/4"	----
34726	1/4" x 3/16"/ 5/16" x 1/4"	----
34728	5/16"/3/8"	----
34727	5/16" x 3/16"/ 3/8"/1/4"	----

**TAILPIECES****SS BARB X SWIVEL SHANK**

PART #	SIZE	
34711	-/ 3/16"	----
34713	3/16"/ 1/4"	----
34715	1/4"/ 5/16"	----
34716	3/8"/-	----
34717	1/2"/ 3/8"	----

**N/P BRASS**

PART #	SIZE	
34710	3/16"/1/4"	----
34712	1/4"/5/16"	----
34714	5/16"/3/8"	----
34716	3/8"/-	----
34718	1/2"/-	----

**#304 SS 90° ELBOW**

PART #	SIZE	
34720	3/16"/-	----
34721	1/4"/1/4"	----
34722	5/16"/5/16"	----
34723	3/8"/3/8"	----
34724	1/2"/1/2"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BEVERAGE FITTINGS

## BRASS FITTINGS

### 90° SWIVEL ELBOW



#### HOSE ID X FEMALE 45°

PART #	SIZE	
34525	1/4" x 1/4"	----
34526	3/8" x 1/4"	----
34529	3/8" x 3/8"	----
34531	1/2" x 1/2"	----

### BARB TO SWIVEL ELBOW



#### HOSE ID X FEMALE 45° FLARE

PART #	SIZE	
34600	1/4" x 1/4"	----
34601	3/8" x 1/4"	----

### MALE ELBOWS



#### HOSE ID X MALE NPTF

PART #	SIZE	
34610	1/4" x 1/8"	----
34611	3/8" x 1/4"	----
34612	3/8" x 3/8"	----
34613	1/2" x 1/2"	----

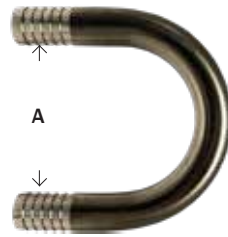
### FEMALE ADAPTERS



#### BARB X FEMALE PIPE

PART #	SIZE	
34661	1/4"	----
34658	1/2"	----

### U-BEND



PART #	SIZE	A	
34633	3/8"	2	----

### THINWALL U-BEND

Part #	Size	A	
34633T	3/8"	1-1/2	----

### U-BEND W/MANIFOLD



#### THINWALL

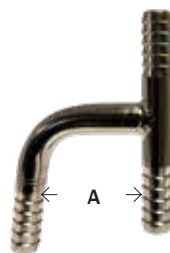
PART #	SIZE	
34621T	1/4"	----
34622T	3/8"	----

### CROSS



PART #	SIZE	
34635T	1/4"	----
34638T	3/8"	----

### Y TEES



PART #	SIZE	A	
34650T	1/4"	1-1/8	----
34652T	3/8"	1-1/4	----

### BARB HOSE TEES



#### ID HOSE

PART #	SIZE	
34561	1/8"	----
34562	1/4"	----
34565	5/16"	----
34563	3/8"	----

### REDUCING TEES

PART #	1&2	3	
34567	1/4"	3/8"	----
34568	3/8"	1/4"	----

### THINWALL TEES



PART #	SIZE	
34562T	1/4"	----
34565T	5/16"	----
34563T	3/8"	----
34564T	1/2"	----

### REDUCING THINWALL TEES

PART #	1&2	3	
34567T	1/4"	3/8"	----
34568T	3/8"	1/4"	----

### 90° BARB SPLICER



#### ID HOSE

PART #	SIZE	
34551	1/4"	----
34550	5/16"	----
34552	3/8"	----

### THINWALL 90° BARB SPLICERS



PART #	SIZE	
34551T	1/4"	----
34552T	3/8"	----
34553T	1/2"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**PUSH ON HOSE BARB**

BRASS FITTINGS

**PUSH ON BARB FITTINGS**

**Typical Application:** Low Pressure Air, Fuel, Lube, and Oil Lines

- Pressure determined by tube material and hardness. Our parts have been tested to max 150 PSI.

**Advantages:** Easy assembly. No clamps needed!!

- **Assembly Instructions**

- 1- Lubricate insert.
- 2- Hold hose at angle as shown & push on and up over first barb.
- 3- Continue to push straight on until hose is seated under protective plastic cap. Keep hands back from hose end area so that hose can expand.

- **Disassembling Instructions**

- 1- Split hose. Do not cut completely through hose. Sealing edge of barb could be damaged.
- 2- Bend hose and remove with a quick pull.

See lead free section for lead free push-on barb fittings. **Stainless steel available at the end of this section.**

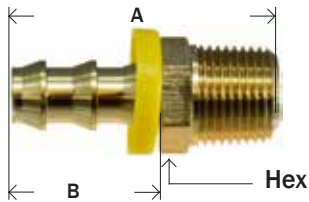
Actual Profile of Push On Barbs



# PUSH-ON FITTINGS

## BRASS FITTINGS

### MALE ADAPTER



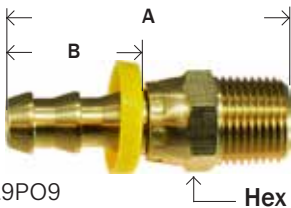
29PO1  
129PO1

PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
30200 *	1/4" x 1/8"	1.43	0.87	0.50	0.04	----
30201 *	1/4" x 1/4"	1.66	0.87	0.56	0.06	----
30211	1/4" x 3/8"	1.66	0.87	0.68	0.06	----
30208	1/4" x 1/2"	1.83	0.88	0.88	0.10	----
30212	5/16" x 1/8"	1.42	0.77	0.43	0.04	----
30213	5/16" x 1/4"	1.66	0.87	0.56	0.06	----
30202	3/8" x 1/8"	1.53	0.97	0.50	0.04	----
30203 *	3/8" x 1/4"	1.69	0.89	0.56	0.07	----
30204 *	3/8" x 3/8"	1.76	0.97	0.68	0.08	----
30205	3/8" x 1/2"	1.97	0.97	0.87	0.10	----
30392	3/8" x 3/4"	1.97	0.92	1.06	0.16	----
30216	1/2" x 1/4"	1.76	0.97	0.68	0.08	----
30206 *	1/2" x 3/8"	1.76	0.97	0.68	0.09	----
30207 *	1/2" x 1/2"	1.97	0.97	0.87	0.14	----
30217	1/2" x 3/4"	1.97	0.97	1.06	0.16	----
30218	1/2" x 1"	2.29	0.97	1.37	0.34	----
30219	5/8" x 3/8"	2.34	1.50	0.75	0.12	----
30209	5/8" x 1/2"	2.45	1.45	0.87	0.16	----
30214	5/8" x 3/4"	2.45	1.45	1.06	0.18	----
30215 *	3/4" x 1/2"	2.45	1.45	0.87	0.21	----
30210 *	3/4" x 3/4"	2.45	1.45	1.06	0.20	----
30238	1" x 3/4"	2.93	1.50	1.25	0.43	----
30239	1" x 1"	3.11	1.50	1.37	0.49	----

- See page 161 for lead free
- See page 36 for Stainless

301 P990A HLM 100B-1 KA-MB 272 29PO 725 625 BPN 941 30182

### MALE SWIVEL

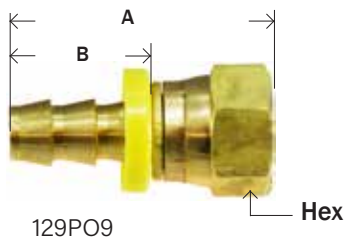


29PO9  
129PO2

PART #	HOSE I.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
30422	1/4" x 1/8"	2.07	0.87	0.56	0.06	----
30385	1/4" x 1/4"	2.02	0.87	0.56	0.06	----
30423	3/8" x 1/8"	2.12	0.97	0.56	0.07	----
30386	3/8" x 1/4"	2.12	0.97	0.56	0.08	----
30387	3/8" x 3/8"	2.12	0.97	0.68	0.08	----
30388	1/2" x 3/8"	2.12	0.97	0.68	0.10	----
30389	1/2" x 1/2"	2.33	0.97	0.87	0.14	----
30424	5/8" x 1/2"	2.80	1.45	0.88	0.18	----
30390	3/4" x 3/4"	2.80	1.45	1.06	0.24	----

921 HMS 285 31382

### FEMALE GASKET SEAL SWIVEL - NPSM



129PO9

PART #	HOSE I.D. X GASKET SWIVEL (NPSM)	A	B	HEX	APPROX. WT. LBS.	
30359	1/4" x 1/8"	1.39	0.77	0.50	0.03	----
30358	1/4" x 1/4"	1.47	0.82	0.68	0.06	----
30360	3/8" x 1/4"	1.61	1.00	0.68	0.06	----
30361	3/8" x 3/8"	1.77	0.97	0.81	0.08	----
30362	3/8" x 1/2"	1.80	0.92	0.93	0.09	----
30363	1/2" x 1/2"	1.90	1.02	0.93	0.11	----
30366	3/4" x 3/4"	2.36	1.55	1.18	0.32	----

- Not recommend for water due to fiber gasket - for air service only.

Dimension data can change without notice. Please check when dimensions are critical.

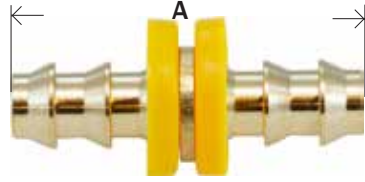
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



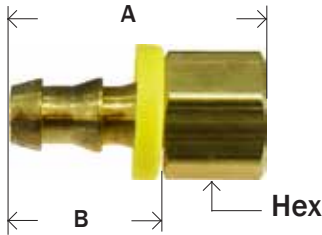
**PUSH ON HOSE BARB**

## BRASS FITTINGS

**HOSE SPLICER**29P08  
129PO14

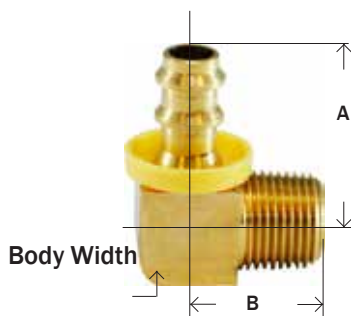
PART #	HOSE I.D.	A	APPROX. WT. LBS.	
30300	1/4"	1.87	0.04	----
30305	5/16"	1.80	0.04	----
30301	3/8"	2.00	0.06	----
30302	1/2"	2.01	0.08	----
30303	5/8"	3.03	0.14	----
30304	3/4"	3.03	0.14	----
30306	1"	3.21	0.28	----

BPM 696 29SPO 296 915 729 100B-Y KA-RM MHL 296 38282

**RIGID FEMALE ADAPTER**29PO2  
129PO7

PART #	HOSE I.D. X FEMALE NPTF	A	B	HEX	APPROX. WT. LBS.	
30220	1/4" x 1/8"	1.35	0.87	0.50	0.02	----
30221	1/4" x 1/4"	1.51	0.87	0.62	0.06	----
30384	1/4" x 3/8"	1.51	0.77	0.75	0.06	----
30391	5/16" x 1/8"	1.32	0.77	0.50	0.03	----
30222	5/16" x 1/4"	1.51	0.87	0.62	0.06	----
30393	3/8" x 1/8"	1.47	0.92	0.56	0.06	----
30224	3/8" x 1/4"	1.61	0.97	0.62	0.06	----
30225	3/8" x 3/8"	1.63	0.97	0.75	0.06	----
30394	3/8" x 1/2"	1.66	0.92	0.93	0.12	----
30397	3/8" x 3/4"	1.97	0.97	1.18	0.20	----
30223	1/2" x 1/4"	1.76	1.02	0.68	0.08	----
30226	1/2" x 3/8"	1.63	0.97	0.75	0.08	----
30227	1/2" x 1/2"	1.77	0.97	0.93	0.14	----
30396	1/2" x 3/4"	2.07	1.02	1.18	0.20	----
30398	5/8" x 3/8"	2.24	1.55	0.75	0.10	----
30229	5/8" x 1/2"	2.24	1.48	0.93	0.11	----
30403	5/8" x 3/4"	2.26	1.44	1.19	0.20	----
30399	3/4" x 1/2"	2.24	1.50	0.93	0.14	----
30395	3/4" x 3/4"	2.55	1.50	1.18	0.24	----
30400	1" x 3/4"	2.55	1.55	1.18	0.25	----
30402	1" x 1"	2.68	1.55	1.43	0.37	----

30282 29FPO HLF 626 274 726 940

**MALE ELBOW**29POE  
129PO20

PART #	HOSE I.D. X MALE NPTF	A	B	BODY WIDTH	APPROX. WT. LBS.	
30372	1/4" x 1/8"	0.98	0.75	0.50	0.04	----
30373	1/4" x 1/4"	1.04	0.95	0.56	0.06	----
30374	5/16" x 1/8"	1.02	0.94	0.50	0.06	----
30375	5/16" x 1/4"	1.09	0.94	0.56	0.08	----
30370	3/8" x 1/8"	1.11	0.75	0.50	0.10	----
30371	3/8" x 1/4"	1.13	0.90	0.56	0.10	----
30376	3/8" x 3/8"	1.21	0.92	0.70	0.12	----
30377	3/8" x 1/2"	1.30	1.19	0.87	0.22	----
30382	1/2" x 3/8"	1.32	1.02	0.70	0.13	----
30378	1/2" x 1/2"	1.50	1.19	0.87	0.22	----
30379	5/8" x 1/2"	1.98	1.19	0.87	0.26	----
30383	3/4" x 1/2"	2.15	1.24	0.87	0.25	----
30381	3/4" x 3/4"	2.07	1.28	1.06	0.34	----

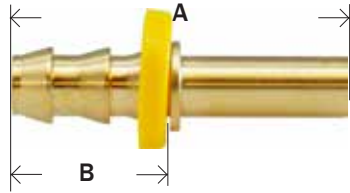
100-C 29EPO 273

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PUSH ON HOSE BARB

## BRASS FITTINGS

### RIGID TUBE ADAPTER

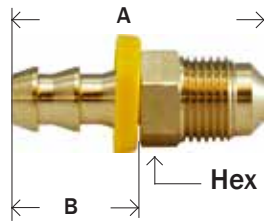


29PO1D  
129PO15

PART #	HOSE I.D. X O.D TUBE	A	B	APPROX. WT. LBS.	
30290	1/4" x 3/16"	1.68	0.77	0.04	----
30291	1/4" x 1/4"	1.88	0.77	0.04	----
30292	1/4" x 5/16"	1.88	0.77	0.04	----
30293	5/16" x 5/16"	1.91	0.79	0.04	----
30294	3/8" x 3/8"	2.03	0.92	0.06	----
30426	3/8" x 1/2"	1.81	0.97	0.04	----
30297	1/2" x 1/2"	2.13	1.02	0.06	----
30298	5/8" x 5/8"	2.61	1.50	0.10	----
30299	3/4" x 3/4"	2.61	1.50	0.25	----

294 100B-X KA-RL 303 732 694

### MALE SAE FLARE ADAPTER

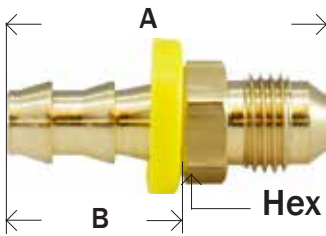


29PO3  
129PO4

PART #	HOSE I.D. X 45° MALE FLARE	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
30240	1/4" x 1/4"	7/16-20	1.45	0.75	0.43	0.04	----
30241	1/4" x 5/16"	1/2-20	1.59	0.84	0.50	0.04	----
30249	5/16" x 5/16"	1/2-20	1.60	0.80	0.50	0.06	----
30271	3/8" x 5/16"	1/2-20	1.64	0.86	0.50	0.08	----
30243	3/8" x 3/8"	5/8-18	1.83	0.92	0.62	0.08	----
30245	1/2" x 1/2"	3/4-16	1.98	1.02	0.875	0.10	----
30246	5/8" x 5/8"	7/8-14	2.73	1.50	0.87	0.19	----
30247	3/4" x 3/4"	1-1/16-14	2.98	1.50	1.06	0.32	----

100B-3 KA-MS 727 945 682 302 282

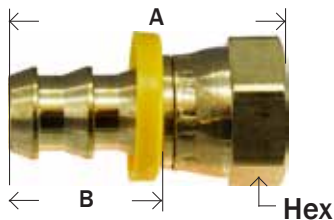
### 37° MALE JIC FLARE ADAPTER



29PO11  
129PO6

PART #	HOSE I.D. X MALE JIC	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
32900	1/4" x 1/4"	7/16-20	1.57	0.84	0.50	0.04	----
32901	1/4" x 5/16"	1/2-20	1.60	0.83	0.56	0.04	----
32906	1/4" x 3/8"	9/16-18	1.63	0.77	0.62	0.05	----
32902	3/8" x 3/8"	9/16-18	1.78	0.97	0.62	0.06	----
32903	1/2" x 1/2"	3/4-16	1.97	0.97	0.75	0.10	----
32907	5/8" x 5/8"	7/8-14	2.62	1.50	0.93	0.19	----
32905	3/4" x 3/4"	1-1/16-12	2.79	1.50	1.12	0.29	----

### SAE/JIC DUAL 45°/37° FEMALE SWIVEL



29PO5  
129PO10

PART #	HOSE I.D. X DUAL SEAT	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
30230 *	1/4" x 1/4"	7/16-20	1.53	0.87	0.56	0.06	----
30231	1/4" x 5/16"	1/2-20	1.53	0.87	0.62	0.04	----
30232	5/16" x 5/16"	1/2-20	1.56	0.87	0.62	0.04	----
30427	3/8" x 5/16"	1/2-20	1.74	0.87	0.62	0.06	----
30233	3/8" x 1/2"	3/4-16	1.79	0.97	0.87	0.10	----
30234 *	1/2" x 1/2"	3/4-16	1.77	0.97	0.87	0.10	----
30235	1/2" x 5/8"	7/8-14	1.84	0.97	1.00	0.12	----
30236	5/8" x 1/2"	3/4-16	2.27	1.45	0.87	0.18	----
30237	5/8" x 5/8"	7/8-14	2.33	1.45	1.00	0.14	----
30428	3/4" x 5/8"	7/8-14	2.33	1.45	1.00	0.20	----

\* See page 36 for stainless

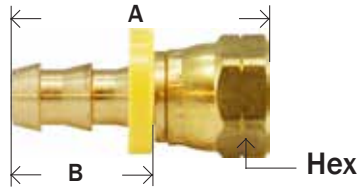
\* See page 161 for lead free

29FDS 287 HDF 309 735 690 P990-K 305 935/934

DIMENSION DATA CAN CHANGE WITHOUT NOTICE. PLEASE CHECK WHEN DIMENSIONS ARE CRITICAL.

**PUSH ON HOSE BARB**

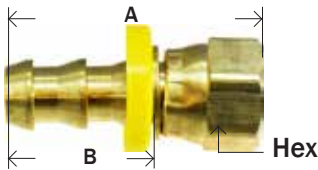
## BRASS FITTINGS

**45° SAE FLARE FEMALE SWIVEL**

29P06  
129PO14

PART #	HOSE I.D. X 45° FEMALE FLARE	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
30250	1/4" x 1/4"	7/16-20	1.54	0.87	0.56	0.04	----
30251	1/4" x 5/16"	1/2-20	1.57	0.87	0.62	0.04	----
30253	1/4" x 3/8"	5/8-18	1.63	0.87	0.75	0.06	----
30254	5/16" x 5/16"	1/2-20	1.58	0.87	0.68	0.06	----
30260	5/16" x 3/8"	5/8-18	1.63	0.87	0.75	0.08	----
30252	3/8" x 3/8"	5/8-18	1.73	0.97	0.75	0.10	----
30257	3/8" x 1/2"	3/4-16	1.85	0.87	0.87	0.10	----
30261	1/2" x 3/8"	5/8-18	1.92	1.05	0.75	0.10	----
30255	1/2" x 1/2"	3/4-16	1.77	0.97	0.87	0.12	----
30258	5/8" x 5/8"	7/8-14	2.35	1.45	1.00	0.14	----
30259	3/4" x 3/4"	1-1/16-14	2.42	1.45	1.25	0.22	----

30882 728 P990-H 29AEPO 307 284 100S-4 KA-NS HSF 684 934

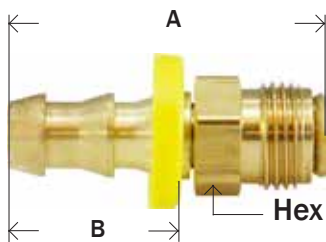
**FEMALE 37° JIC FLARE SWIVEL**

29P07  
129PO12

PART #	HOSE I.D. X FEMALE JIC	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
30265	1/4" x 1/4"	7/16-20	1.54	0.87	0.56	0.04	----
30264	1/4" x 3/8"	9/16-18	1.57	0.87	0.68	0.06	----
30270	5/16" x 3/8"	9/16-18	1.60	0.82	0.68	0.06	----
30266 *	3/8" x 3/8"	9/16-18	1.70	0.97	0.68	0.08	----
30267	1/2" x 1/2"	3/4-16	1.78	0.97	0.87	0.10	----
30268	5/8" x 5/8"	7/8-14	2.33	1.45	1.00	0.14	----
30269 *	3/4" x 3/4"	1-1/16-12	2.40	1.45	1.25	0.22	----
30429	1" x 1"	1-5/16-12	2.60	1.45	1.50	0.39	----

\* See page 36 for stainless

JF 944/934 29J1CPO HJF 688 738 288 100B-6 308 P990-F 30682 KA-NU

**INVERTED FLARE MALE SWIVEL**

29P016  
129PO6

PART #	HOSE I.D. X MALE INV FLARE	UNF THREAD	A	B	HEX	APPROX. WT. LBS.	
30275	1/4" x 3/16"	3/8-24	1.52	0.87	0.37	0.04	----
30276	1/4" x 1/4"	7/16-24	1.56	0.87	0.43	0.04	----
30277	1/4" x 5/16"	1/2-20	1.62	0.87	0.50	0.04	----
30280	5/16" x 5/16"	1/2-20	1.62	0.87	0.50	0.06	----
30283	5/16" x 3/8"	5/8-18	1.63	0.87	0.62	0.06	----
30284	3/8" x 5/16"	1/2-20	1.72	0.97	0.50	0.06	----
30279	3/8" x 3/8"	5/8-18	1.76	0.97	0.62	0.06	----
30282	1/2" x 1/2"	3/4-18	1.84	0.97	0.75	0.10	----
30286	5/8" x 5/8"	7/8-18	2.50	1.57	0.87	0.14	----

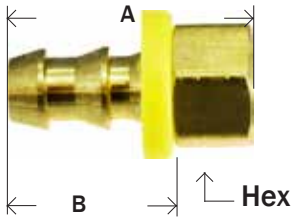
290 100B-B KA-MF 1MS 947

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PUSH ON HOSE BARB

## BRASS FITTINGS

### INVERTED FLARE FEMALE ADAPTER

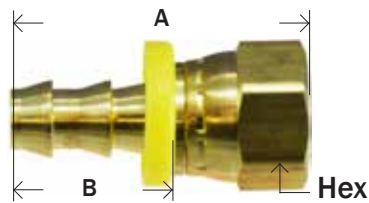


29P013  
129P013

PART #	HOSE I.D. X FEMALE INV FLARE	A	B	HEX	APPROX. WT. LBS.	
30310	1/4" x 3/16"	1.12	0.84	0.50	0.02	----
30311	1/4" x 1/4"	1.14	0.84	0.56	0.02	----
30312	1/4" x 5/16"	1.18	0.82	0.62	0.02	----
30316	5/16" x 5/16"	1.25	0.81	0.62	0.04	----
30313	3/8" x 5/16"	1.32	0.87	0.62	0.04	----
30314	3/8" x 3/8"	1.35	0.95	0.75	0.06	----
30315	1/2" x 1/2"	1.73	1.04	0.87	0.12	----

306 100B-A KA-NG 292 P990-J 736 692 946

### FEMALE BALLSEAT SWIVEL

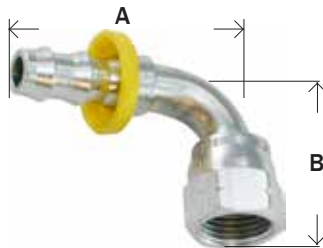


29P04  
129P08

PART #	HOSE I.D. X FEMALE NPSM	A	B	HEX	APPROX. WT. LBS.	
30340	1/4" X 1/8"	1.39	0.85	0.50	0.06	----
30341	1/4" X 1/4"	1.47	0.82	0.68	0.06	----
30342	1/4" x 3/8"	1.40	0.77	0.68	0.09	----
30343	3/8" X 1/4"	1.61	0.97	0.68	0.08	----
30344	3/8" X 3/8"	1.75	0.95	0.81	0.10	----
30430	3/8" x 1/2"	1.79	0.97	0.93	0.11	----
30346	1/2" X 1/2"	1.88	1.09	0.93	0.12	----
30345	1/2" x 3/4"	2.36	1.02	1.18	0.18	----
30349	3/4" X 3/4"	2.36	1.55	1.18	0.22	----

628 278 295PO 731 NPSM

### SAE/ JIC 37°/ 45° FEMALE SWIVEL 90° ZINC PLATED STEEL



PART #	HOSE I.D. X FEMALE 37°/45°	UNF THREAD	A	B	APPROX. WT. LBS.	
30480	1/4"	7/16-20	1.55	0.83	.064	----
30482	3/8"	9/16-18	1.85	0.91	.095	----
30483*	3/8"	5/8-18	1.98	0.85	.095	----
30484	1/2"	3/4-16	2.33	1.09	.171	----
30486	3/4"	1-1/16-12	3.26	1.81	.281	----

\* SAE

When we ask for advice, we are usually looking for an accomplice

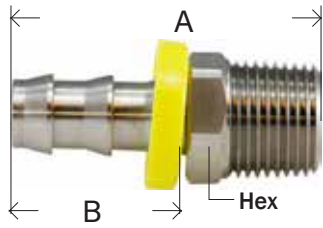
~ Marquis de la Grange

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

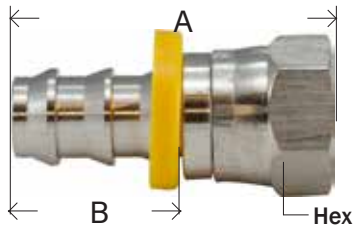
BRASS

**STAINLESS STEEL PUSH ON 316 HOSE BARB**

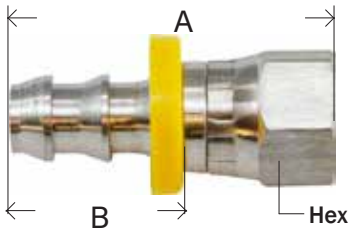
BRASS FITTINGS

**316 STAINLESS STEEL MALE ADAPTERS**

PART #	HOSE I.D. X NPT	A	B	HEX	APPROX. WT. LBS.	
30200SS	1/4" x 1/8"	1.42	0.77	0.44	0.027	----
30201SS	1/4" x 1/4"	1.61	0.77	0.56	0.043	----
30203SS	3/8" x 1/4"	1.76	0.92	0.56	0.053	----
30204SS	3/8" x 3/8"	1.76	0.92	0.69	0.067	----
30206SS	1/2" x 3/8"	1.86	1.02	0.69	0.071	----
30207SS	1/2" x 1/2"	2.07	1.02	0.88	0.119	----
30215SS	3/4" x 1/2"	2.55	1.50	0.88	0.20	----
30210SS	3/4" x 3/4"	2.55	1.50	1.06	0.194	----

**316 STAINLESS STEEL SAE/ JIC 45°/ 37° FEMALE SWIVEL**

PART #	HOSE I.D. X FEMALE 45°/37°	A	B	HEX	APPROX. WT. LBS.	
30230SS	1/4" x 1/4"	1.48	0.74	0.56	0.023	----
30234SS	1/2" x 1/2"	1.93	1.03	0.88	0.04	----

**316 STAINLESS STEEL FEMALE 37° JIC FLARE SWIVEL**

PART #	HOSE I.D. X FEMALE 37°	A	B	HEX	APPROX. WT. LBS.	
30266SS	3/8" x 3/8"	1.75	.92	0.68	0.065	----
30269SS	3/4" x 3/4"	2.53	1.50	1.25	0.259	----

If opportunity doesn't knock, build a door.

- Milton Berle

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# GARDEN HOSE FITTINGS



• **Temperature and Working Pressure Ranges**

From +35°F to +100°F at 75 PSI maximum or the recommended working pressure of the garden hose. (Not to exceed 150 PSI.)

**Note:** All female connector ends should have a rubber washer inserted prior to usage.

**FGH** = Female Garden Hose threads

**MGH** = Male Garden Hose threads

Male garden hose threads are all 3/4" with an outside diameter of 1.0625 and 11-1/2" threads per inch.



Male Garden Hose Profile



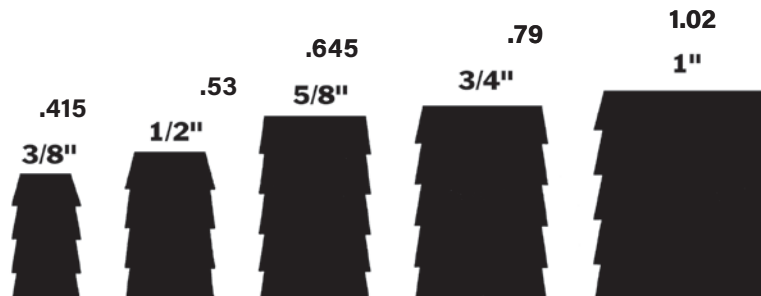
See Plastic section for Plastic Garden Hose Fittings



See page 162 for lead free Garden Hose

Washers included are #30150B black rubber washers.

Actual Profile of Garden Hose Barbs



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

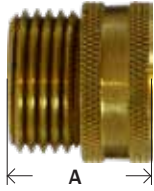
# STAINLESS STEEL PUSH ON 316 HOSE BARB

BRASS FITTINGS

## SWIVEL - MGH X FGH

-WASHER INCLUDED

Internal Hex ↘



PART #	MGH X FGH	A	HEX	APPROX. WT. LBS.	
30000**	3/4" x 3/4"	1.03	0.50*	0.26	----

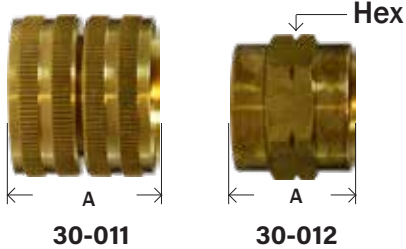
\* Internal Hex

\* Not a live swivel

\*\* available in swivel crimp style

## SWIVEL - FGH X FGH

-WASHER INCLUDED



PART #	FGH X FGH	A	HEX	APPROX. WT. LBS.	
30011	3/4" x 3/4"	1.03	1.18 O.D.	0.24	----
30012	No Swivel	1.08	1.19	0.24	----

HUS 91 203W GSU 101GHSV 22AS 506 FS66

## SWIVEL - FGH X FEMALE PIPE

-WASHER INCLUDED



PART #	FGH X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
30001	3/4" x 1/2"	1.20	1.00	0.11	----
30006	3/4" x 3/4"	1.11	1.12	0.11	----

S1 HSU11 91Z 197S 98GHSV 5AS 21517 502 FS65

## EVAPORATIVE COOLER FITTINGS



PART #	SIZE	
50016	MGH x 1/2" FIP	----
30013	1/2 MIP x 1/2 FIP x 1/8	----
30019	3/4 MIP x 3/4 FIP x 1/8	----
30020	MGH x FGH x 1/8	----

## RIGID - FGH X FEMALE PIPE

-WASHER INCLUDED



PART #	FGH X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
30016	3/4" x 1/8"	1.02	1.18	0.08	----
30017	3/4" x 1/4"	0.65	1.12	0.07	----
30018	3/4" x 3/8"	1.19	1.18	0.11	----

95GH 501

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# GARDEN HOSE

## BRASS FITTINGS

### RIGID - FGH X FEMALE PIPE

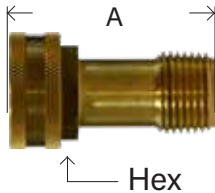


PART #	FGH X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
30078	3/4" x 1/2"	1.06	1.18	0.10	----
30083	3/4" x 3/4"	1.06	1.18	0.12	----

FS67 198 HU11 21507 501 99GH 5A H15PP

### SWIVEL - FGH X MALE PIPE

• WASHER INCLUDED

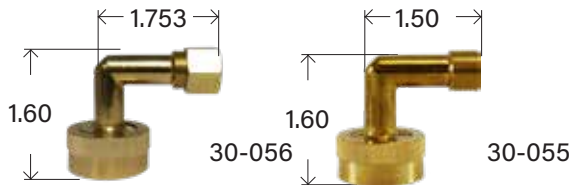


PART #	FGH X MALE NPTF	A	HEX	APPROX. WT. LBS.	
30047	3/4" x 1/4"	2.04	0.75	0.13	----
30048	3/4" x 3/8"	2.06	0.75	0.14	----
30049	3/4" x 1/2"	2.06	0.87	0.18	----

504 89GH W1 62H4 88GH W1

### 3/8" COMP 3/4" FGH DISHWASHER 90° ELBOW

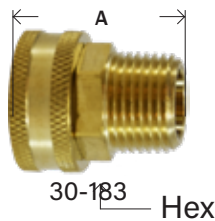
• WASHER INCLUDED



PART #	3/4 FEMALE GARDEN HOSE THREAD X 3/8 COMPRESSION	
30055	3/4" x 3/8" Body Only	----
30056	3/4" x 3/8" w/ nut & sleeve	----

### SWIVEL - FGH X MALE PIPE

• WASHER INCLUDED



30-183 Hex

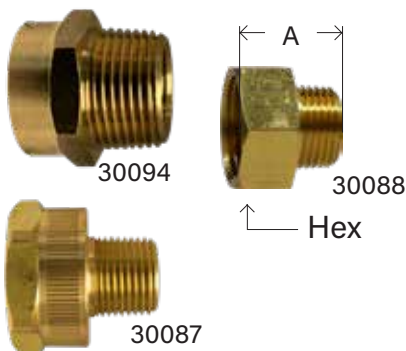


\* Crimp style

PART #	FGH X MALE NPTF	A	HEX	APPROX. WT. LBS.	
30181*	3/4" x 1/4"	1.43	1.18	0.13	----
30184*	3/4" x 3/8"	1.43	1.18	0.15	----
30183	3/4" x 1/2"	1.32	0.81	0.11	----
30182*	3/4" x 3/4"	1.43	1.18	0.14	----

### RIGID - FGH X MALE PIPE

• WASHER INCLUDED



PART #	FGH X MALE NPTF	A	HEX	APPROX. WT. LBS.	
30087	3/4" x 3/8"	1.37	1.18	0.11	----
30088	3/4" x 1/2"	1.06	1.18	0.09	----
30088S	3/4" x 1/2"(1/2"SWT)				
30093	3/4" x 3/4"	1.06	1.18	0.11	----
30094	3/4" x 3/4"(1/2" FIP)	1.17	1.18	0.11	----
30093L*	3/4" x 3/4"	1.22	1.18	0.14	----

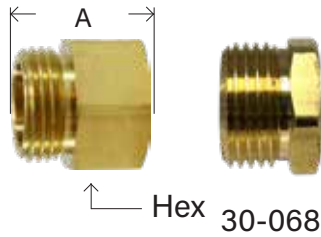
\* Long pattern

\*\* 1/2 Swt = 5/8 O.D.

21505 503 83GH 20A HU21 199 H7

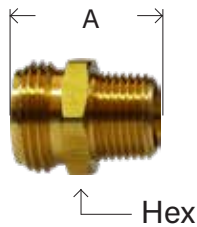
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**GARDEN HOSE****BRASS FITTINGS****RIGID - MGH X FEMALE PIPE**

PART #	MGH X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
30066	3/4" x 1/4"	1.10	1.06	0.09	----
30067	3/4" x 3/8"	1.09	1.06	0.12	----
30068	3/4" x 1/2"	0.81	1.06	0.10	----
30073	3/4" x 3/4"	1.12	1.18	0.10	----
30074	3/4" x 1"	1.36	1.37	0.19	
30075	1" x 1"	1.60	1.38	0.25	

197 18R HU12 H11PP 18A 507 18H 81GH 21503 MF67

**RIGID - MGH X MALE PIPE**

PART #	MGH X MALE NPTF	A	HEX	APPROX. WT. LBS.	
30054	3/4" x 1/4"	1.26	1.06	0.12	
30053	3/4" x 3/8"	1.25	1.06	0.10	----
30058	3/4" x 1/2"	1.31	1.06	0.12	----
30058S*	3/4" x 1/2" SWT				
30063**	3/4" x 3/4" x 1/2"	1.31	1.06	0.13	----
30063BE***	3/4" x 3/4"	1.31	1.06	0.15	----
30063S	3/4" x 3/4" Short	1.10	1.06	0.10	----
30064	3/4" x 1"	1.88	1.37	0.35	----
30065	1" x 1"	1.88	1.37	0.26	

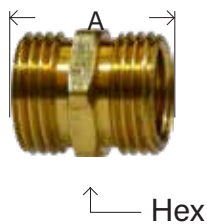
No Tap

19R 196 H530 21501 508 HU22 514 71GH 19A

\* (1/2 Swt = 5/8 O.D.)

\*\* (Tapped 1/2 FIP)

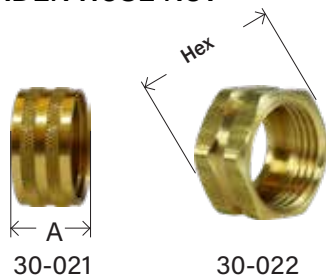
\*\*\* (Tapped 1/2 FIP Both ends)

**RIGID - MGH X MGH**

PART #	MGH X MGH	A	HEX	APPROX. WT. LBS.	
30098	3/4" x 3/4" (1/2" FIP)	1.22	1.06	0.13	----
30099	3/4" x 3/4"	1.38	1.06	0.15	----
30100*	1" x 3/4"	1.31	1.37	0.21	----
30101	1" x 1"	1.38	1.37	0.23	

\* 1-11-1/2

21500 509 75GH 23A H8 19R

**GARDEN HOSE NUT**

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
30021	Knurled	0.61	1.37 O.D.	0.08	----
30022	Hex Nut	0.62	1.18	0.08	----

Dimension data can change without notice. Please check when dimensions are critical.

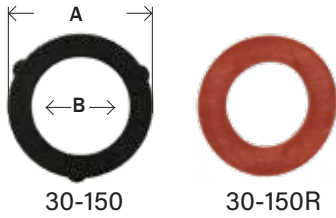
94GH GHN1 HNR 21514

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# GARDEN HOSE

## BRASS FITTINGS

### GARDEN HOSE WASHERS

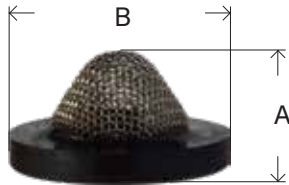


PART #	SIZE	A	B	THICK-NESS	APPROX. WT. LBS.	
30150	black*	0.98	0.68	0.13	0.01	----
30150R	red	1.00	0.68	0.13	0.01	----
30150B	black rubber	1.00	0.68	0.13	0.01	----
30151	1"	1.27	0.86	0.16	0.01	----

\* plasticized rubber

GHW 901GH

### GARDEN HOSE FILTER WASHER



▪ 300 Series Stainless Steel Screen

PART #	SIZE	A	B	APPROX. WT. LBS.	
30180	30 Mesh	0.52	1.00	0.02	----
30180F	60 Mesh	0.52	1.00	0.02	----

LA662

### GARDEN HOSE CAP

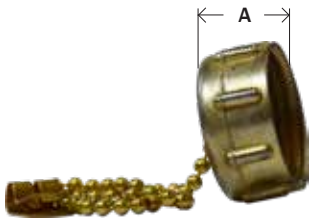


PART #	SIZE	A	APPROX. WT. LBS.	
30103	3/4" Die Cast	0.58	0.04	----
30103B	3/4" Barstock	0.60	0.048	----

513 96GH GHN5 HC1 LA215 21518 200-W

▪ Garden hose washers sold seperately

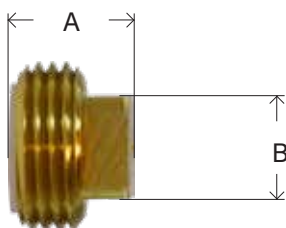
### GARDEN HOSE CAP WITH CHAIN



PART #	SIZE	A	APPROX. WT. LBS.	
30142	3/4" w/ 12" Chain	0.58	0.06	----

\* Zinc die cast

### GARDEN HOSE PLUG



PART #	SIZE	A	B	APPROX. WT. LBS.	
30026	3/4"	0.69	0.61	0.12	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**GARDEN HOSE**

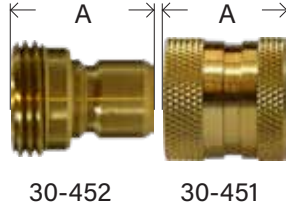
## BRASS FITTINGS

**HOSE MENDERS - SOLID BARB X BARB**

PART #	HOSE I.D. X HOSE I.D.	A	B	O.D.	APPROX. WT. LBS.	
32096	1/2"	2.00	0.96	0.62	0.06	----
32097	5/8"	2.05	0.96	0.75	0.08	----
32098	3/4"	2.50	1.15	0.87	0.10	----
32099	1"	3.00	1.44	1.02	0.23	----

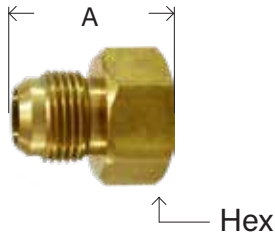
**QUICK DISCONNECT GARDEN HOSE COUPLERS****.WASHER INCLUDED**

- Unvalved construction allows maximum Flow
- 150 PSI
- NBR Seals



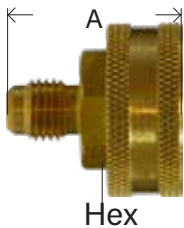
PART #	SIZE	A	APPROX. WT. LBS.	
30450	Complete	1.70	0.24	----
30451	Female end	1.14	0.12	----
30452	Male end	1.26	0.12	----
30149	Recessed Washer	1.02	0.01	

LA73C

**MALE FLARE X FGH RIGID**

PART #	MALE FLARE X FGH	A	HEX	APPROX. WT. LBS.	
30123	3/8" x 3/4"	1.31	1.18	0.10	----
30128	1/2" x 3/4"	1.38	1.18	0.12	----
30133	5/8" x 3/4"	1.53	1.18	0.14	----

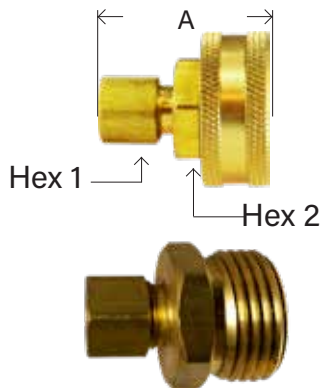
190 46WH HFU21

**MALE FLARE X FGH SWIVEL****.WASHER INCLUDED**

PART #	MALE FLARE X FGH	A	HEX	APPROX. WT. LBS.	
30052	1/4" x 3/4"	1.24	0.75	0.10	----
30138	3/8" x 3/4"	1.25	0.25*	0.12	----
30139	1/2" x 3/4"	1.49	0.81	0.14	----

\* Internal Hex

50GHSV 51GHSV W1 68H 191

**COMPRESSION X FGH****.WASHER INCLUDED**

PART #	SWIVEL COMPRESSION X FGH	A	HEX 1	HEX 2	APPROX. WT. LBS.	
30050	1/4" x 3/4"	1.02	0.50	0.75	0.09	----
30051	3/8" x 3/4"	1.04	0.62	0.75	0.12	----

PART #	NO SWIVEL COMPRESSION X MGH	A	HEX 1	HEX 2	APPROX. WT. LBS.	
30135	1/4" x 3/4"	1.45	0.50	0.625	0.14	----
30136	3/8" x 3/4"	1.525	0.625	0.62	0.15	----
30137	1/2" x 3/4"	1.8	0.815	0.685	0.19	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

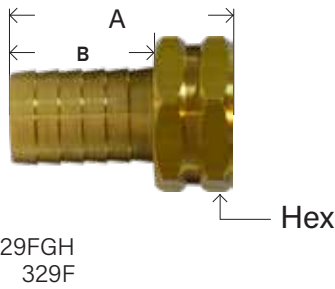
# GARDEN HOSE

## BRASS FITTINGS

### BARSTOCK BRASS GARDEN HOSE COUPLINGS

#### FEMALE SWIVEL ONLY

**•WASHER INCLUDED**



#### BRASS

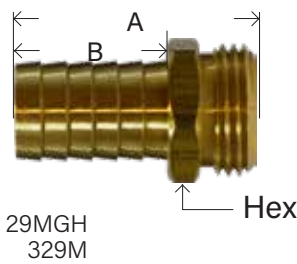
PART #	HOSE BARB X FGH	A	B	HEX	APPROX. WT. LBS.	
30031	3/8" x 3/4"	1.82	1.19	1.18	0.11	----
30032	1/2" x 3/4"	1.82	1.19	1.18	0.12	----
30033	5/8" x 3/4"	1.82	1.19	1.18	0.13	----
30034	3/4" x 3/4"	1.82	1.19	1.18	0.15	----
30044	1" x 3/4"	2.10	1.19	1.18	0.18	----
30035	1" x 1"	2.28	1.47	1.50	0.18	----



#### STAINLESS STEEL 316

30032SS	1/2" x 3/4"	1.82	1.19	1.18	0.12	----
30033SS	5/8" x 3/4"	1.82	1.19	1.18	0.13	----
30034SS	3/4" x 3/4"	1.82	1.19	1.18	0.15	----

#### MALE END ONLY



#### BRASS

PART #	HOSE BARB X MGH	A	B	HEX	APPROX. WT. LBS.	
30039	3/8" x 3/4"	1.88	1.19	1.06	0.12	----
30040	1/2" x 3/4"	1.88	1.19	1.06	0.12	----
30041	5/8" x 3/4"	1.88	1.19	1.06	0.12	----
30042	3/4" x 3/4"	1.88	1.19	1.06	0.13	----
30045	1" x 3/4"	1.94	1.19	1.06	0.21	----
30043	1" x 1"	2.34	1.47	1.37	0.26	----



#### STAINLESS STEEL 316

30040SS	1/2" x 3/4"	1.88	1.19	1.06	0.12	----
30041SS	5/8" x 3/4"	1.88	1.19	1.06	0.12	----
30042SS	3/4" x 3/4"	1.88	1.19	1.06	0.13	----

#### GARDEN HOSE COUPLING

**•WASHER INCLUDED**



#### BRASS

PART #	HOSE BARB	
30025	3/8"	----
30027	1/2"	----
30028	5/8"	----
30029	3/4"	----
30046	1"(3/4" threads)	----
30030	1"	----



#### STAINLESS STEEL 316

30027SS	1/2"	----
30028SS	5/8"	----
30029SS	3/4"	----

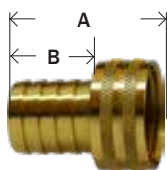
Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**GARDEN HOSE**

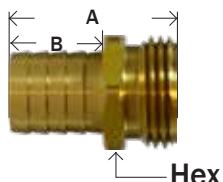
## BRASS FITTINGS

**FEMALE SWIVEL ONLY - SHORT SHANK KNURLED NUT**

PART #	HOSE BARB X FGH	A	B	APPROX. WT. LBS.	
30464	1/4" x 3/4"	1.39	0.77	0.09	
30466	1/2" x 3/4"	1.50	0.88	0.08	----
30467	5/8" x 3/4"	1.50	0.88	0.09	----
30468	3/4" x 3/4"	1.47	0.88	0.10	----

**FEMALE END ONLY - SHORT SHANK W/ HEX**

PART #	HOSE X FGH	A	B	HEX	APPROX. WT. LBS.	
30453	1/2" x 3/4"	1.63	1.00	1.18	0.11	----
30454	5/8" x 3/4"	1.63	1.00	1.18	0.11	----
30455	3/4" x 3/4"	1.63	1.00	1.18	0.13	----

**MALE END ONLY - SHORT SHANK**

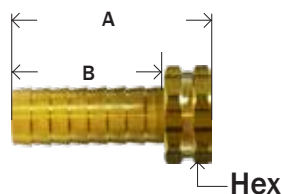
PART #	HOSE BARB X MGH	A	B	HEX	APPROX. WT. LBS.	
30469	1/4" x 3/4"	1.55	0.88	1.06	0.11	
30471	1/2" x 3/4"	1.55	0.88	1.06	0.11	----
30472	5/8" x 3/4"	1.56	0.88	1.06	0.12	----

**GARDEN HOSE COUPLING SETS - SHORT SHANK W/ HEX NUT**

PART #	HOSE BARB	
30457	1/2"	----
30458	5/8"	----
30459	3/4"	----

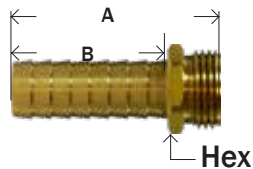
**FEMALE SWIVEL ONLY - 2" SHANK**

-WASHER INCLUDED



PART #	HOSE BARB X FGH	A	B	HEX	APPROX. WT. LBS.	
30505	1/2" x 3/4"	2.55	2.04	1.18	0.13	----
30506	5/8" x 3/4"	2.56	2.04	1.18	0.16	----
30507	3/4" x 3/4"	2.67	2.04	1.18	0.17	----
30508	1" x 1"	2.84	2.03	1.43	0.29	----

GHFL 594

**MALE END ONLY - 2" SHANK**

PART #	HOSE BARB X MGH	A	B	HEX	APPROX. WT. LBS.	
30510	1/2" x 3/4"	2.72	2.04	1.06	0.16	----
30511	5/8" x 3/4"	2.72	2.04	1.06	0.17	----
30512	3/4" x 3/4"	2.72	2.04	1.06	0.20	----
30513	1" x 1"	2.90	2.03	1.37	0.28	----

GHML 593

**GARDEN HOSE COUPLING SETS - 2" SHANK**

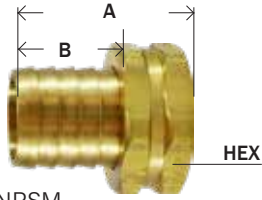
PART #	HOSE X FGH	
30516	1/2"	----
30517	5/8"	----
30518	3/4"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NPSM GARDEN HOSE

## BRASS FITTINGS

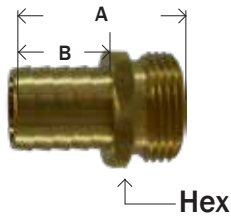
### NPSM FEMALE SHORT SHANK



329NPSM

PART #	HOSE ID	NPSM THREAD	A	B	HEX	
30545	1/2	3/4"	1.45	0.88	1.18	----
30546	5/8	3/4"	1.47	0.88	1.18	----
30547	3/4	3/4"	1.47	0.88	1.18	----
30548	1	1"	1.50	1.00	1.50	----

### NPSM MALE SHORT SHANK



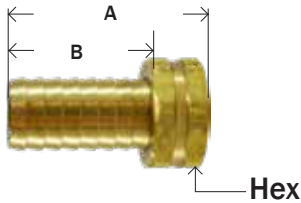
PART #	HOSE ID	NPSM THREAD	A	B	HEX	
30550	1/2	3/4"	1.56	0.88	1.06	----
30551	5/8	3/4"	1.56	0.88	1.06	----
30552	3/4	3/4"	1.56	0.88	1.06	----
30553	1	1"	1.77	0.98	1.30	----

### NPSM SHORT SHANK SETS



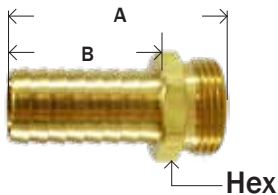
PART #	SIZE	
30540	1/2"	----
30541	5/8"	----
30542	3/4"	----
30543	1"	----

### NPSM FEMALE LONG SHANK



PART #	HOSE ID	NPSM THREAD	A	B	HEX	
30565	1/2	1/2"	2.09	1.50	0.94	----
30566	5/8	3/4"	2.09	1.50	1.18	----
30567	3/4	3/4"	2.09	1.50	1.18	----
30568	1	1"	2.12	1.53	1.50	----

### NPSM MALE LONG SHANK



PART #	HOSE ID	NPSM THREAD	A	B	HEX	
30570	1/2	1/2"	2.18	1.50	0.87	----
30571	5/8	3/4"	2.18	1.50	1.06	----
30572	3/4	3/4"	2.18	1.50	1.06	----
30573	1	1"	2.32	1.53	1.30	----

### NPSM LONG SHANK SETS



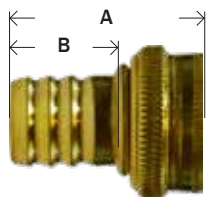
PART #	SIZE	
30560	1/2"	----
30561	5/8"	----
30562	3/4"	----
30563	1"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

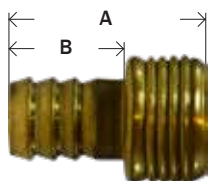
**GARDEN HOSE VALVES/ FITTINGS**

BRASS FITTINGS

**WROUGHT BRASS****WROUGHT BRASS - FEMALE END ONLY****.WASHER INCLUDED**

PART #	HOSE BARB X FGH	A	B	APPROX. WT. LBS.	
30526	5/8" x 3/4"	1.58	0.91	0.05	----
30527	3/4" x 3/4"	1.50	0.84	0.06	----

85L

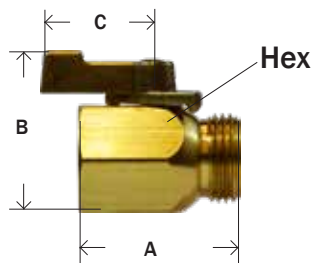
**WROUGHT BRASS COUPLINGS - MALE END ONLY**

PART #	HOSE BARB X MGH	A	B	APPROX. WT. LBS.	
30530	1/2" x 3/4"	1.50	0.88	0.02	----

85M

**GARDEN HOSE VALVES****ONE WAY BRASS BALL VALVE - FGH X MGH**

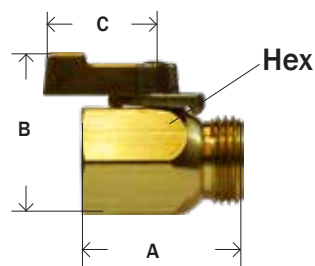
• 500 PSI • 180°F

**. WASHER INCLUDED**

PART #	FGH X MGH	A	B	C	HEX	APPROX. WT. LBS.	
30161	3/4" x 3/4"	1.87	1.89	1.31	1.06	0.42	----

**ONE WAY BRASS BALL VALVE - FEMALE PIPE X MGH**

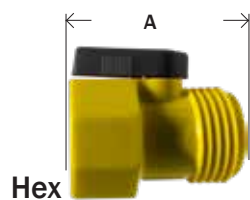
• 500 PSI • 180°F



PART #	FEMALE NPTF X MGH	A	B	C	HEX	APPROX. WT. LBS.	
30162	3/4" x 3/4"	1.55	1.89	1.31	1.06	0.42	----

**ZINC ALLOY HOSE SHUT-OFF W/ ONE LEVER****. WASHER INCLUDED**

PART #	FGH X MGH	A	APPROX. WT. LBS.	
30631	3/4" x 3/4"	1.67	0.08	----

**PLASTIC GARDEN HOSE VALVE - CYCOLAC BODY & BALL****. WASHER INCLUDED**

PART #	FGH X MGH	A	HEX	APPROX. WT. LBS.	
30163	3/4" x 3/4"	1.75	1.25	0.04	----

LA450C

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

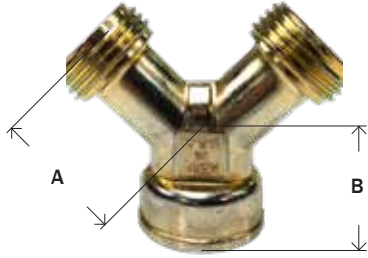


# GARDEN HOSE VALVES

## BRASS FITTINGS

### ZINC ALLOY HOSE - "Y" CONNECTOR

• WASHER INCLUDED

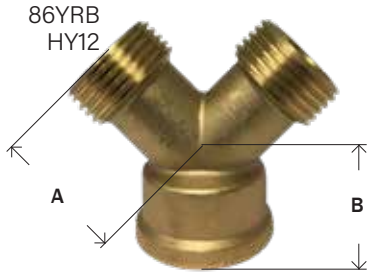


PART #	SIZE FGH X MGH(2)	A	B	APPROX. WT. LBS.	
30141	3/4"	1.70	0.57	1.5	

86Y 21A

### CAST BRASS HOSE - "Y" CONNECTOR

• WASHER INCLUDED

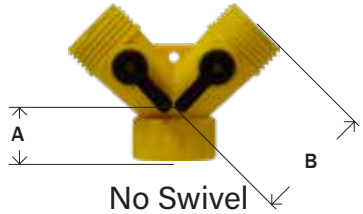


PART #	SIZE FGH X MGH(2)	A	B	APPROX. WT. LBS.	
30140	3/4"	1.40	0.67	0.22	----

86Y 21A

### PLASTIC, NON-CORROSIVE, 2-WAY HOSE SHUT-OFF "Y"

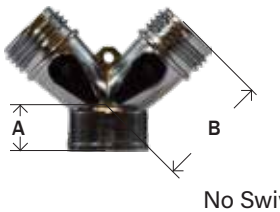
• WASHER INCLUDED



PART #	SIZE FGH X MGH(2)	A	B	APPROX. WT. LBS.	
30160	3/4"	0.74	1.87	0.08	----

### "Y" SHAPE ZINC ALLOY CONNECTOR W/ TWO LEVERS

• WASHER INCLUDED



PART #	SIZE FGH X MGH(2)	A	B	APPROX. WT. LBS.	
30626	3/4"	0.60	1.66	0.10	----

### "Y" SHAPE BRASS CONNECTOR W/ 2-WAY SHUT OFF

• WASHER INCLUDED



▪ Brass Levers

PART #	SIZE	DESCRIPTION FGH SWIVEL X MGH(2)	APPROX. WT. LBS.	
30627	3/4"	3/4 Double Y valve, swivel inlet	0.56	----

### ZINC ALLOY SWIVEL HOSE CONNECTOR



PART #	SIZE FGH X MGH	A	B	APPROX. WT. LBS.	
30629	3/4"	1.31	1.50	0.08	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

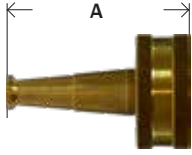
BRASS

**GARDEN HOSE NOZZLES**

## BRASS FITTINGS

**2-1/2" BRASS NOZZLE**

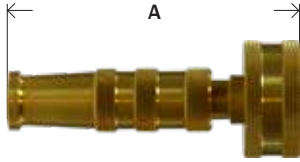
• WASHER INCLUDED



PART #	SIZE	A	APPROX. WT. LBS.	
30637	3/4"	2.50	0.14	----

**3" CROSSED PATTERN BRASS NOZZLE**

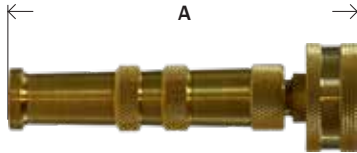
• WASHER INCLUDED



PART #	SIZE	A	APPROX. WT. LBS.	
30640	3/4"	2.89	0.25	----

**4" CROSSED PATTERN BRASS NOZZLE**

• WASHER INCLUDED



PART #	SIZE	A	APPROX. WT. LBS.	
30638	3/4"	3.80	0.50	----



• WASHER INCLUDED

5-1/2

Adjustable Spray

Part #	Size	Description	
30600	5-1/2"	Zinc Alloy spray nozzle with insulated handle soft grip and front thread protector	----



• WASHER INCLUDED

Lead Free

4-1/4

Part #	Size	Description	
30620	4-1/4"	Zinc Alloy spray nozzle	----



• WASHER INCLUDED

5-1/4

Lead Free  
Adjustable Spray

Part #	Size	Description	
30609	5-1/4"	Zinc Alloy spray nozzle with easily adjustable brass head and plastic grip	----



• WASHER INCLUDED

4-1/2

Part #	Size	Description	
30630	4-1/2"	Plastic spray nozzle	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SAE 45° FLARE

BRASS FITTINGS

## SAE 45° FLARE



Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Thread Size-B	5/16-24	3/8-24	7/16-20	1/2-20	5/8-18	11/16-16	3/4-16	7/8-14	1-1/16-14

### •Typical Application

LP and natural gas, flammable liquids, instrumentation, refrigeration, power steering, hydraulic and pneumatic systems.

### •Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

PSI	Tube O.D. (in.)	Tube Wall (in.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035
450	7/8	.035

### •Vibration

Good resistance - use long nut when greater vibration resistance is required.

### •Temperature Range

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures.

### •Used With

Copper, brass, aluminum and steel hydraulic tubing that can be flared.

### • Tolerance

+/- .03 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

### •Conformance

Meets specifications and standards of ASA, ASME, SAE and MS (Military standards).

### Assembly Instructions

- 1- Cut tubing to desired length. Make sure all burrs are removed and ends are cut square.
- 2- Slide nut on tube. Threaded end "A" of nut must face out.
- 3- Flare end of tube with a 45° flaring tool.
  - a- Measure flare diameter.
  - b- Examine flare for excessive thin out.
- 4- Lubricate threads and assemble to fitting body. Nut should be turned hand tight.
- 5- Tighten assembly with wrench until a solid feeling is encountered. From that point, apply a one-sixth turn.

**Note:** Do not over-torque as it may damage the fitting or split the tubing at the flare.



• See Lead Free Flare Fittings page 163-164

Actual O.D. of Flare Fittings



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**SAE 45° FLARE**

## BRASS FITTINGS

## SHORT ROD NUT

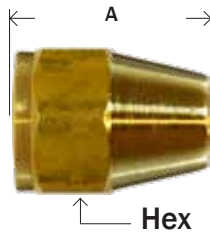
SAE# 010110



PART #	THREAD SIZE UNF	THREAD	A	HEX	APPROX. WT. LBS.	
10013	1/8"	5/16-24	0.50	0.37	0.01	----
10014	3/16"	3/8-24	0.62	0.43	0.02	----
10015	1/4"	7/16-20	0.75	0.56	0.03	----
10015L	1/4"	7/16-20	0.75	0.50	0.03	----
10016	5/16"	1/2-20	0.88	0.62	0.04	----
10017L	3/8"	5/8-18	0.77	0.75	0.05	----
10017	3/8"	5/8-18	1.00	0.75	0.04	----
10018	7/16"	11/16-16	1.06	0.81	0.06	----
10019L	1/2"	3/4-16	0.93	0.87	0.06	----
10019	1/2"	3/4-16	1.12	0.87	0.09	----
10020L	5/8"	7/8-14	1.08	1.00	0.10	----
10020	5/8"	7/8-14	1.31	1.06	0.15	----
10021	3/4"	1-1/16-14	1.50	1.25	0.24	----
10022	7/8"	1-1/4-12	1.62	1.50	0.36	----
10026	1"	1-3/8-12	1.81	1.62	0.44	----

20910 41FS 1110 N1 41FX 441S 'L'

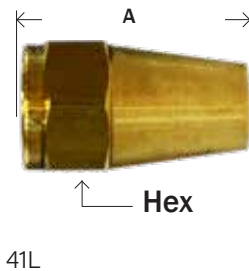
## REDUCING SHORT ROD NUT



PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10023	3/8" x 1/4"	0.74	0.81	0.06	----
10024	1/2" x 3/8"	0.86	0.94	0.10	----
10025	5/8" x 1/2"	0.99	1.06	0.12	----

## LONG ROD NUT

SAE# 010111



PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10001	1/8"	0.75	0.37	0.01	----
10002	3/16"	0.81	0.43	0.02	----
10003L	1/4"	0.98	0.55	0.03	----
10003	1/4"	0.94	0.56	0.03	----
10004	5/16"	1.12	0.62	0.04	----
10005	3/8"	1.31	0.75	0.06	----
10006	1/2"	1.62	0.87	0.12	----
10007	5/8"	1.88	1.06	0.20	----
10008	3/4"	2.19	1.25	0.34	----

41FL N2 241 441 41

🔑 "L" means light pattern.

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

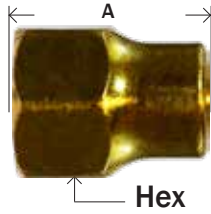
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SAE 45° FLARE

## BRASS FITTINGS

### LONG FORGED NUT

SAE# 010167



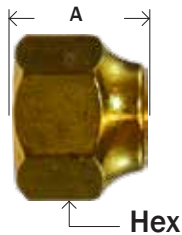
640L  
641L

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10028	1/4"	0.94	0.62	0.05	----
10030	3/8"	1.06	0.81	0.08	----
10031	1/2"	1.19	0.94	0.12	----
10032	5/8"	1.44	1.06	0.26	----
10033	3/4"	1.75	1.31	0.35	----

41FF 39 N4 14FL 641

### SHORT FORGED NUT

SAE# 010166

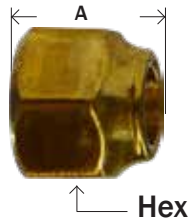


641S  
6401S

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10038	3/16"	0.56	0.50	0.02	----
10039	1/4"	0.60	0.62	0.04	----
10040	5/16"	0.66	0.69	0.04	----
10041	3/8"	0.70	0.81	0.06	----
10042	1/2"	0.82	0.94	0.08	----
10043	5/8"	0.95	1.06	0.12	----
10044	3/4"	1.16	1.31	0.22	----
10045	7/8"	1.18	1.38	0.30	----

14FS 41FFS 40 641-S 1116 NSA

### EXTRA HEAVY SHORT FORGED NUT



641SH  
6401SXH

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10046	1/4"	0.63	0.75	0.04	----
10047	3/8"	0.72	0.88	0.06	----
10048	1/2"	0.88	1.00	0.08	----
10049	5/8"	0.98	1.12	0.12	----

NSA

### FORGED REDUCING NUT



660  
662S

PART #	FEMALE FLARE X OD	A	HEX	APPROX. WT. LBS.	
10051	5/16" x 1/4"	0.66	0.75	0.06	----
10052	3/8" x 1/4"	0.72	0.81	0.06	----
10053	3/8" x 5/16"	0.72	0.81	0.08	----
10054	1/2" x 3/8"	0.81	0.94	0.08	----
10055	5/8" x 3/8"	0.96	1.12	0.15	----
10056	5/8" x 1/2"	0.97	1.06	0.12	----
10058	3/4" x 5/8"	1.17	1.31	0.30	----

NSR4 14FS 41FRS 40R 662-S

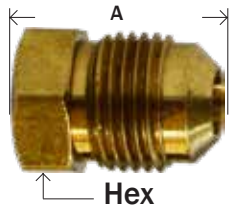
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**SAE 45° FLARE**

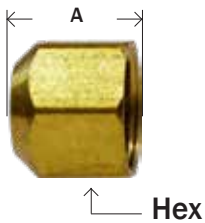
## BRASS FITTINGS

**FLARED PLUG**39  
439

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10062	1/8"	0.53	0.34	0.01	
10063	3/16"	0.59	0.50	0.02	----
10064 *	1/4"	0.69	0.43	0.02	----
10065 *	5/16"	0.78	0.50	0.04	----
10066 *	3/8"	0.88	0.62	0.06	----
10067	1/2"	1.06	0.75	0.10	----
10068	5/8"	1.19	0.87	0.14	----
10069	3/4"	1.32	1.06	0.22	----

\* Available in Stainless Steel. Add SS to the part#

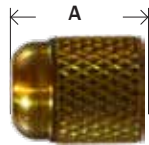
58 639F PF 57 P2 2229 439

**FLARED CAP**40  
440

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10073	1/8"	0.46	0.37	0.02	
10074	3/16"	0.47	0.50	0.02	----
10075 *	1/4"	0.48	0.50	0.02	----
10075EH	1/4"	0.54	0.57	0.02	
10076	5/16"	0.62	0.62	0.04	----
10077 *	3/8"	0.58	0.75	0.03	----
10078	1/2"	0.69	0.81	0.14	----
10079	5/8"	0.81	0.94	0.20	----
10080	3/4"	1.17	1.37	0.30	----

\* Available in Stainless Steel. Add SS to the part#

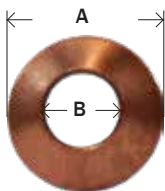
640F 41FC 56 N5 2129 54 440

**FINGER TIGHTENING CAP**NFTS  
FTC5

PART #	THREAD SIZE UNF	A	APPROX. WT. LBS.	
10081	1/4"	0.62	0.02	----
10082	3/8"	0.70	0.03	

- Neoprene
- O-Ring Included

NFT5

**COPPER GASKET****SAE# 010113**

463

PART #	SIZE	A	B	APPROX. WT. LBS.	
10084	3/16"	0.31	0.12	0.01	----
10085	1/4"	0.36	0.19	0.01	----
10086	5/16"	0.42	0.22	0.01	----
10087	3/8"	0.55	0.28	0.01	----
10088	1/2"	0.66	0.41	0.01	----
10089	5/8"	0.77	0.50	0.01	----
10090	3/4"	0.95	0.62	0.01	----

B2 2GF 6251 FG 157 59 46

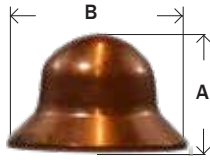
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SAE 45° FLARE

## BRASS FITTINGS

### COPPER BONNET

SAE# 010114

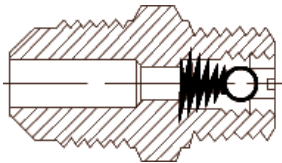
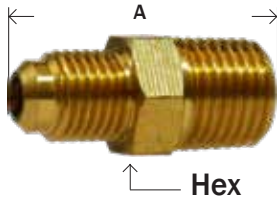


464

PART #	SIZE	A	B	APPROX. WT. LBS.	
10094	3/16"	0.16	0.31	0.01	----
10095	1/4"	0.22	0.36	0.01	----
10097	3/8"	0.34	0.55	0.01	----
10098	1/2"	0.41	0.66	0.01	----
10099	5/8"	0.44	0.77	0.01	----
10100	3/4"	0.56	0.95	0.01	----

B1 3GF 64C 57 156 FB 695 464

### MALE BALL CHECK CONNECTOR



43  
403

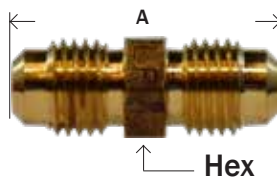
PART #	MALE FLARE X MALE NPTF	A	HEX	APPROX. WT. LBS.	
10131*	1/4" x 1/8"	1.06	0.43		----
10256WC	1/4" x 1/4"	1.24	0.6	0.04	----
10133*	3/8" x 1/4"	1.31	0.62	0.08	----
10132	5/16" x 1/8"	1.14	0.50	0.04	

43A

\* Note: Ball & Spring position may be reversed to change flow/check position. Min working pressure 3 PSI.

### UNION

SAE# 010101



42  
402

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10104	1/8"	0.91	0.31	0.02	----
10105	3/16"	1.06	0.37	0.02	----
10106L	1/4"	1.19	0.43	0.03	----
10106 *	1/4"	1.19	0.43	0.03	----
10106EH	1/4"	1.55	0.56	0.05	
10107	5/16"	1.34	0.50	0.05	----
10108L	3/8"	1.50	0.62	0.09	----
10108 *	3/8"	1.50	0.62	0.09	----
10109L	1/2"	1.67	0.75	0.12	----
10109	1/2"	1.81	0.75	0.14	----
10110L	5/8"	2.00	0.87	0.20	----
10110	5/8"	2.12	0.87	0.20	----
10111	3/4"	2.44	1.06	0.35	----
10112	7/8"	2.72	1.25	0.52	----

\* Available in Stainless Steel. Add SS to the part#

42F U2



"L" means light pattern.

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

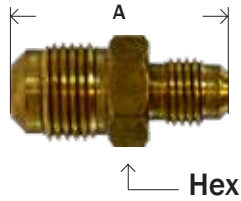
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**SAE 45° FLARE**

## BRASS FITTINGS

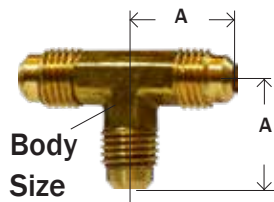
## REDUCING UNION

42R  
506

PART #	THREAD SIZE UNF	A	HEX	APPROX. WT. LBS.	
10115	1/4" x 1/8"	1.11	0.44	0.03	----
10116	1/4" x 3/16"	1.12	0.44	0.03	----
10117	5/16" x 1/4"	1.28	0.50	0.04	----
10118	3/8" x 1/4"	1.38	0.62	0.06	----
10119	3/8" x 5/16"	1.44	0.62	0.08	----
10120	1/2" x 1/4"	1.53	0.75	0.10	----
10121	1/2" x 3/8"	1.69	0.75	0.10	----
10122	5/8" x 3/8"	1.88	0.87	0.17	----
10123	5/8" x 1/2"	1.87	0.87	0.14	----
10126	3/4" x 1/2"	2.18	1.06	0.26	----
10127	3/4" x 5/8"	2.20	1.06	0.27	----

656F UR2 44-R

## UNION TEE



Forged Tee

44F  
404  
244

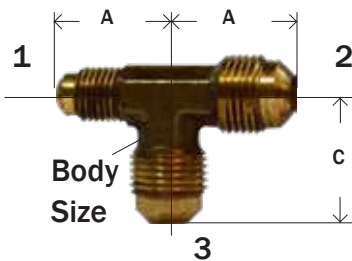
SAE# 010401

PART #	THREAD SIZE UNF	A	BODY SIZE	APPROX. WT. LBS.	
10157	1/8"	0.67	0.36	0.04	----
10158	3/16"	0.75	0.36	0.06	----
10159 **	1/4"	0.78	0.36	0.06	----
10160 **	5/16"	0.91	0.44	0.10	----
10161 **	3/8"	1.00	0.44	0.12	----
10162	1/2"	1.16	0.59	0.19	----
10163	5/8"	1.41	0.69	0.30	----
10164	3/4"	1.64	0.88	0.53	----
10165	7/8"	1.75	1.25	0.93	----

\*\* Available in Stainless Steel. Add SS to the part#

244F T2 144F

## REDUCING TEE 1 X 2 X 3

44FR  
509

PART #	THREAD SIZE UNF 1X2X3	A	C	BODY SIZE	APPROX. WT. LBS.	
10170	1/4" x 1/4" x 3/8"	0.91	1.00	0.44	0.10	----
10171	5/16" x 5/16" x 1/4"	0.94	0.94	0.44	0.12	----
10172	3/8" x 1/4" x 1/4"	0.91	1.00	0.44	0.10	----
10173	3/8" x 1/4" x 3/8"	1.00	0.91	0.44	0.12	----
10174	3/8" x 3/8" x 1/4"	1.00	0.88	0.44	0.11	----
10175	3/8" x 3/8" x 1/2"	1.00	1.19	0.59	0.14	----
10176	3/8" x 3/8" x 5/8"	1.16	1.44	0.69	0.16	----
10178	1/2" x 3/8" x 3/8"	1.16	1.12	0.59	0.18	----
10179	1/2" x 3/8" x 1/2"	1.16	1.09	0.59	0.18	----
10180	1/2" x 1/2" x 1/4"	1.16	0.97	0.59	0.18	----
10181	1/2" x 1/2" x 3/8"	1.16	1.12	0.59	0.19	----
10182	1/2" x 1/2" x 5/8"	1.28	1.41	0.69	0.28	----
10187	5/8" x 1/2" x 5/8"	1.44	1.33	0.69	0.27	----
10188	5/8" x 5/8" x 3/8"	1.38	1.16	0.69	0.30	----
10189	5/8" x 5/8" x 1/2"	1.38	1.28	0.69	0.28	----

144F TR2 659F 684F 44R

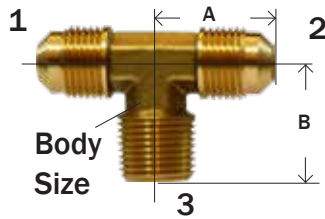
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SAE 45° FLARE

## BRASS FITTINGS

### MALE BRANCH TEE

SAE# 010425

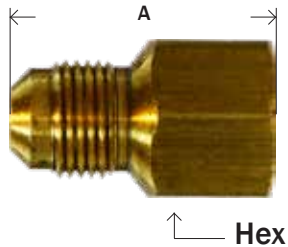


Forged Tee

45R  
245  
405

### FEMALE ADAPTER

SAE# 010103



46  
246  
406

• More sizes available.

#### "L" means light pat-

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial

PART #	MALE FLARE X MALE NPT (1&2) X3	A	B	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10203	3/16" x 1/8"	0.75	0.75	0.36	0.10	----
10204	1/4" x 1/8"	0.78	0.75	0.36	0.05	----
10205	1/4" x 1/4"	0.88	0.88	0.44	0.08	----
10206	1/4" x 3/8"	0.92	1.00	0.47	0.10	----
10207	5/16" x 1/8"	0.89	0.78	0.44	0.08	----
10208	5/16" x 1/4"	0.94	0.94	0.44	0.08	----
10209	3/8" x 1/8"	1.00	0.91	0.44	0.14	----
10210	3/8" x 1/4"	1.00	0.94	0.44	0.12	----
10211 **	3/8" x 3/8"	1.00	1.00	0.47	0.13	----
10212 **	3/8" x 1/2"	1.12	1.22	0.69	0.22	----
10213	1/2" x 1/4"	1.16	1.00	0.59	0.20	----
10214	1/2" x 3/8"	1.16	1.14	0.59	0.19	----
10215	1/2" x 1/2"	1.22	1.22	0.69	0.24	----
10216	1/2" x 3/4"	1.38	1.41	0.88	0.22	----
10217	5/8" x 3/8"	1.38	1.25	0.69	0.24	----
10218	5/8" x 1/2"	1.41	1.31	0.69	0.29	----
10219	5/8" x 3/4"	1.41	1.41	0.88	0.36	----
10220	3/4" x 1/2"	1.63	1.59	0.88	0.49	----

\*\* Available in Stainless Steel. Add SS to the part#

T1 145F 45

PART #	MALE FLARE X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	LIST PRICE
10227	3/16" x 1/8"	0.97	0.56	0.03	----
10228L	1/4" x 1/8"	1.03	0.56	0.03	----
10228	1/4" x 1/8"	1.03	0.56	0.04	----
10229L	1/4" x 1/4"	1.06	0.68	0.06	----
10229	1/4" x 1/4"	1.23	0.68	0.07	----
10230	1/4" x 3/8"	1.18	0.81	0.08	----
10231	1/4" x 1/2"	1.31	0.94	0.06	----
10232	5/16" x 1/8"	1.06	0.56	0.05	----
10233	5/16" x 1/4"	1.28	0.68	0.08	----
10234	3/8" x 1/8"	1.09	0.62	0.08	----
10235L	3/8" x 1/4"	1.25	0.68	0.08	----
10235	3/8" x 1/4"	1.31	0.81	0.08	----
10236L	3/8" x 3/8"	1.25	0.81	0.08	----
10236	3/8" x 3/8"	1.25	0.81	0.10	----
10237L	3/8" x 1/2"	1.31	0.94	0.08	----
10237	3/8" x 1/2"	1.60	1.00	0.16	----
10238	3/8" x 3/4"	1.41	1.18	0.11	----
10239	1/2" x 1/4"	1.37	0.75	0.10	----
10240L	1/2" x 3/8"	1.38	0.81	0.12	----
10240	1/2" x 3/8"	1.50	0.81	0.14	----
10241L	1/2" x 1/2"	1.42	0.94	0.10	----
10241	1/2" x 1/2"	1.75	1.00	0.12	----
10242L	1/2" x 3/4"	1.40	1.10	0.16	----
10242	1/2" x 3/4"	1.60	1.12	0.16	----
10243	5/8" x 3/8"	1.24	0.87	0.12	----
10244L	5/8" x 1/2"	1.51	0.86	0.15	----
10244	5/8" x 1/2"	1.62	0.94	0.12	----
10245	5/8" x 3/4"	1.65	1.12	0.17	----
10246	3/4" x 1/2"	1.74	1.18	0.32	----
10247	3/4" x 3/4"	1.75	1.18	0.22	----
10248	7/8" x 3/4"	1.94	1.31	0.26	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

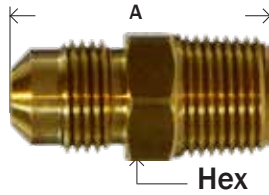
# SAE 45° FLARE

## BRASS FITTINGS

BRASS

### MALE ADAPTER

SAE# 010102



48  
248  
408

PART #	MALE FLARE X MALE NPTF	A	HEX	APPROX. WT. LBS.	LIST PRICE
10253	1/8" x 1/8"	0.92	0.43	0.02	----
10254	3/16" x 1/8"	1.00	0.43	0.03	----
10255L	1/4" x 1/8"	1.06	0.43	0.03	----
10255 *	1/4" x 1/8"	1.06	0.43	0.04	----
10255EH	1/4" x 1/8"	1.06	0.44	0.03	----
10256L	1/4" x 1/4"	1.15	0.56	0.03	----
10256 *	1/4" x 1/4"	1.25	0.56	0.04	----
10256SS	1/4" x 1/4"				
10257 *	1/4" x 3/8"	1.31	0.68	0.06	----
10258	1/4" x 1/2"	1.44	0.87	0.11	----
10259L	5/16" x 1/8"	1.15	0.50	0.04	----
10259	5/16" x 1/8"	1.16	0.50	0.04	----
10260L	5/16" x 1/4"	1.31	0.56	0.06	----
10260	5/16" x 1/4"	1.34	0.56	0.06	----
10261 *	5/16" x 3/8"	1.38	0.68	0.08	----
10262	3/8" x 1/8"	1.25	0.62	0.07	----
10263L	3/8" x 1/4"	1.31	0.62	0.06	----
10263 *	3/8" x 1/4"	1.44	0.62	0.08	----
10263SS	3/8" x 1/4"				
10264L	3/8" x 3/8"	1.37	0.68	0.09	----
10264 *	3/8" x 3/8"	1.42	0.68	0.09	----
10264SS	3/8" x 3/8"				
10265L	3/8" x 1/2"	1.44	0.89	0.12	----
10265 *	3/8" x 1/2"	1.69	0.87	0.14	----
10266	3/8" x 3/4"	1.81	1.06	0.18	----
10267	1/2" x 1/4"	1.60	0.75	0.11	----
10268L	1/2" x 3/8"	1.46	0.75	0.10	----
10268	1/2" x 3/8"	1.62	0.75	0.12	----
10269L	1/2" x 1/2"	1.62	0.87	0.13	----
10269	1/2" x 1/2"	1.79	0.87	0.15	----
10270	1/2" x 3/4"	1.75	1.06	0.22	----
10271	5/8" x 1/4"	1.81	0.87	0.14	----
10272L	5/8" x 3/8"	1.67	0.87	0.14	----
10272	5/8" x 3/8"	1.81	0.87	0.18	----
10273L	5/8" x 1/2"	1.80	0.87	0.11	----
10273	5/8" x 1/2"	2.00	0.87	0.20	----
10274	5/8" x 3/4"	1.85	1.06	0.21	----
10275	3/4" x 1/2"	2.19	1.06	0.28	----
10276	3/4" x 3/4"	2.08	1.06	0.28	----
10277	7/8" x 1/2"	2.22	1.25	0.52	----
10278	7/8" x 3/4"	2.35	1.25	0.41	----
10279	1" x 3/4"	2.44	1.43	0.53	----
10280	1" x 1"	2.44	1.43	0.53	----

\* Available in Stainless Steel. Add SS to the part#

U1 48



**"L" means light pattern.**

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

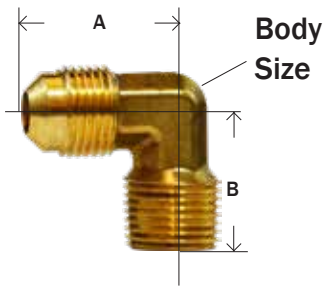


# SAE 45° FLARE

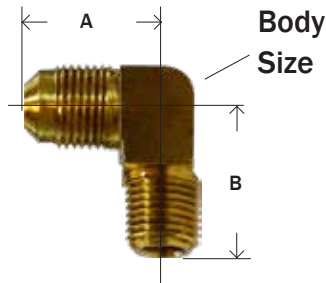
## BRASS FITTINGS

### 90° MALE ELBOW

SAE# 010202



Forged Elbow



Barstock Elbow

49  
249  
409

PART #	MALE FLARE X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10283	1/8" x 1/8"	0.63	0.73	0.37	0.04	----
10283B*	1/8" x 1/8"	0.62	0.69	0.43	0.04	----
10284	3/16" x 1/8"	0.75	0.75	0.38	0.04	----
10284B*	3/16" x 1/8"	0.75	0.75	0.43	0.06	----
10285	3/16" x 1/4"	0.81	0.88	0.44	0.08	----
10286	1/4" x 1/8"	0.84	0.78	0.38	0.04	----
10286L	1/4" x 1/8"	0.96	0.80	0.37	0.04	----
10286B*	1/4" x 1/8"	0.81	0.78	0.47	0.05	----
10287 **	1/4" x 1/4"	0.81	0.88	0.44	0.05	----
10287B*	1/4" x 1/4"	0.91	0.93	0.59	0.08	----
10288 **	1/4" x 3/8"	0.91	0.91	0.47	0.08	----
10289	1/4" x 1/2"	1.03	1.09	0.59	0.10	----
10290	5/16" x 1/8"	0.91	0.88	0.44	0.06	----
10290B*	5/16" x 1/8"	0.91	0.78	0.52	0.06	----
10291	5/16" x 1/4"	0.98	0.96	0.44	0.08	----
10291B*	5/16" x 1/4"	0.95	0.92	0.62	0.08	----
10292	5/16" x 3/8"	1.06	1.09	0.59	0.08	----
10293	3/8" x 1/8"	1.00	0.91	0.53	0.08	----
10293B*	3/8" x 1/8"	1.03	0.91	0.65	0.08	----
10294	3/8" x 1/4"	1.01	0.89	0.48	0.08	----
10294B*	3/8" x 1/4"	0.97	1.04	0.68	0.11	----
10295 **	3/8" x 3/8"	1.00	0.88	0.47	0.10	----
10295L	3/8" x 3/8"	0.95	0.89	0.46	0.11	----
10295B*	3/8" x 3/8"	1.06	1.09	0.69	0.12	----
10296 **	3/8" x 1/2"	1.10	1.09	0.59	0.12	----
10297	3/8" x 3/4"	1.25	1.31	0.81	0.12	----
10298	1/2" x 1/4"	1.19	1.00	0.59	0.12	----
10298B*	1/2" x 1/4"	1.22	1.19	0.81	0.12	----
10299	1/2" x 3/8"	1.10	1.00	0.59	0.13	----
10299B*	1/2" x 3/8"	1.22	1.12	0.77	0.18	----
10300	1/2" x 1/2"	1.16	1.13	0.59	0.14	----
10300B*	1/2" x 1/2"	1.26	1.26	0.94	0.26	----
10301	1/2" x 3/4"	1.42	1.25	0.81	0.24	----
10311	5/8" x 1/4"	1.34	1.13	0.72	0.28	----
10302	5/8" x 3/8"	1.35	1.22	0.72	0.20	----
10302B*	5/8" x 3/8"	1.41	1.25	0.94	0.20	----
10303	5/8" x 1/2"	1.35	1.22	0.72	0.20	----
10303L	5/8" x 1/2"	1.29	1.11	0.70	0.20	----
10303B*	5/8" x 1/2"	1.41	1.38	0.94	0.20	----
10304	5/8" x 3/4"	1.44	1.31	0.81	0.25	----
10305	3/4" x 1/2"	1.67	1.50	0.88	0.34	----
10306	3/4" x 3/4"	1.67	1.63	0.88	0.30	----
10306B*	3/4" x 3/4"	1.60	1.62	0.91	0.32	----
10307	7/8" x 3/4"	1.75	1.68	1.00	0.44	----
10308	1" x 3/4"	1.94	1.69	1.31	0.75	----
10309	1" x 1"	1.94	1.75	1.25	0.78	----

Dimension data can change without notice. Please check when dimensions are critical.

\* Barstock

\*\* Available in Stainless Steel. Add SS to the part#

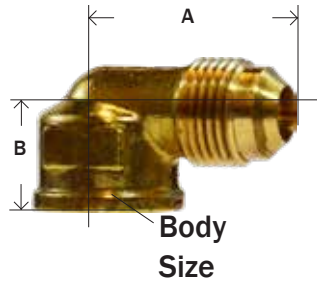
249F 49 E1 149F

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**SAE 45° FLARE**

## BRASS FITTINGS

**90° FEMALE ELBOW**

Forged Elbow

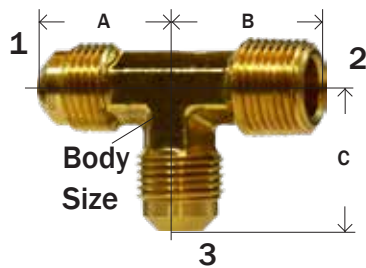
50F  
250  
500

SAE# 010203

PART #	MALE FLARE X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10312	3/16" x 1/8"	0.81	0.44	0.56	0.05	----
10313	1/4" x 1/8"	0.90	0.46	0.56	0.06	----
10313B*	1/4" x 1/8"	0.95	0.46	0.56	0.06	----
10314	1/4" x 1/4"	0.97	0.59	0.75	0.08	----
10314B*	1/4" x 1/4"	0.95	0.66	0.75	0.08	----
10315	1/4" x 3/8"	1.03	0.57	0.81	0.09	----
10333	1/4" x 1/2"	1.08	0.66	1.00	0.12	----
10316	5/16" x 1/8"	0.94	0.88	0.45	0.08	----
10306B*	5/16" x 1/8"	0.94	0.87	0.56	0.07	----
10317	5/16" x 1/4"	1.03	0.58	0.75	0.06	----
10318	3/8" x 1/8"	1.00	0.88	0.47	0.10	----
10319	3/8" x 1/4"	1.06	0.59	0.75	0.09	----
10319B*	3/8" x 1/4"	1.15	0.73	0.68	0.14	----
10320	3/8" x 3/8"	1.06	0.57	0.81	0.10	----
10320B*	3/8" x 3/8"	1.10	0.75	0.82	0.16	----
10321	3/8" x 1/2"	1.16	0.66	1.00	0.14	----
10321L	3/8" x 1/2"	1.21	0.42	0.96	0.13	----
10322	3/8" x 3/4"	1.28	0.72	1.25	0.12	----
10323	1/2" x 1/4"	1.25	0.70	0.88	0.13	----
10324	1/2" x 3/8"	1.25	0.70	0.88	0.12	----
10324B*	1/2" x 3/8"	1.26	0.75	0.88	0.16	----
10325	1/2" x 1/2"	1.29	0.72	1.00	0.18	----
10325L	1/2" x 1/2"	1.24	0.71	0.98	0.17	----
10326	1/2" x 3/4"	1.41	0.72	1.25	0.20	----
10327	5/8" x 3/8"	1.35	1.22	0.72	0.22	----
10328	5/8" x 1/2"	1.38	0.75	1.00	0.20	----
10329	5/8" x 3/4"	1.50	0.76	1.25	0.28	----

\* Barstock

E3 50 150F

**FORGED MALE RUN TEE**51F  
501

PART #	MALE FLARE X MALE NPTF (1&3) X 2	A	B	C	BODY SIZE	AP-PROX. WT. LBS.	LIST PRICE
10361	3/16" x 5/16" x 1/8"	0.87	0.78	0.97	0.44	0.08	----
10343	3/16" x 1/8"	0.75	0.75	0.75	0.37	0.05	----
10344	1/4" x 1/8"	0.78	0.75	0.78	0.37	0.06	----
10344B*	1/4" x 1/8"	0.90	0.76	0.86	0.37	0.07	----
10345	1/4" x 1/4"	0.88	0.88	0.88	0.44	0.08	----
10347	5/16" x 1/8"	0.88	0.80	0.88	0.44	0.08	----
10348	5/16" x 1/4"	0.94	0.94	0.94	0.44	0.08	----
10350	3/8" x 1/4"	1.00	0.94	1.00	0.44	0.12	----
10351	3/8" x 3/8"	1.00	1.00	1.00	0.47	0.10	----
10340	3/8" x 1/2" x 3/8"	1.09	1.09	1.16	0.59	0.18	----
10352	3/8" x 1/2"	1.12	1.22	1.12	0.69	0.12	----
10353	1/2" x 3/8" x 1/2"	1.22	1.22	1.15	0.69	0.22	----
10354	1/2" x 3/8"	1.16	1.09	1.16	0.59	0.18	----
10355	1/2" x 1/2"	1.22	1.22	1.22	0.69	0.22	----
10357	5/8" x 1/2"	1.41	1.31	1.41	0.69	0.28	----
10359	3/4" x 1/2"	1.63	1.59	1.63	0.88	0.48	----
10360	3/4" x 3/4"	1.62	1.44	1.62	0.88	0.48	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



Dimension data can change without notice. Please check when dimensions are critical.

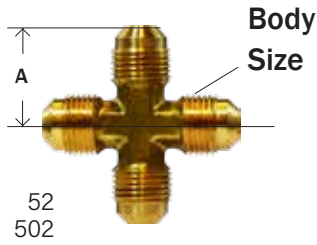
T3 151F 51

# SAE 45° FLARE

## BRASS FITTINGS

### FORGED FLARE CROSS

SAE# 010501

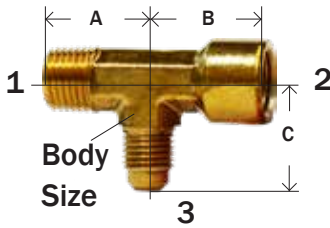


52  
502

PART #	THREAD SIZE UNF	A	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10373	1/4"	0.88	0.44	0.10	----
10374	5/16"	0.92	0.44	0.10	----
10375	3/8"	1.00	0.44	0.16	----
10376	1/2"	1.16	0.59	0.24	----

455 C1 147F 52

### FORGED ADAPTER TEE / SERVICE TEE

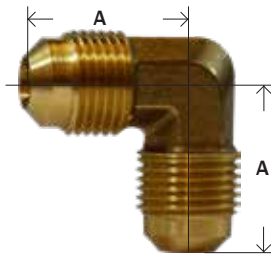


53  
503

PART #	SIZE 1 X 2 X 3	A	B	C	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10382	1/8" x 1/8" x 1/4"	0.72	0.53	0.80	0.47	0.08	----

T17 53

### FORGED 90° FLARE ELBOW



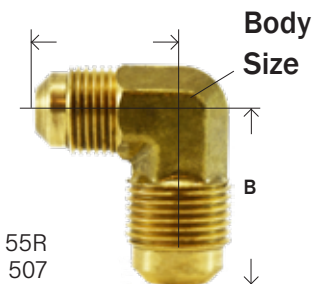
55F  
505

PART #	THREAD SIZE UNF	A	APPROX. WT. LBS.	LIST PRICE
10404	1/8"	0.64	0.04	----
10405	3/16"	0.75	0.06	----
10406	1/4"	0.81	0.08	----
10406B*	1/4"	0.89	0.04	----
10407	5/16"	0.91	0.10	----
10408	3/8"	1.00	0.10	----
10409	1/2"	1.16	0.14	----
10409B*	1/2"	1.23	0.22	----
10410	5/8"	1.41	0.22	----
10411	3/4"	1.66	0.68	----
10412	7/8"	1.81	0.82	----

\* Barstock

E2 155F

### FORGED REDUCING ELBOW



55R  
507

PART #	MALE FLARE X MALE FLARE	A	B	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10416	3/8" x 1/4"	1.00	0.88	0.47	0.08	----
10419	1/2" x 3/8"	1.19	1.02	0.59	0.14	----
10421	5/8" x 1/2"	1.34	1.23	0.72	0.21	----

ER2 657F 55R

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

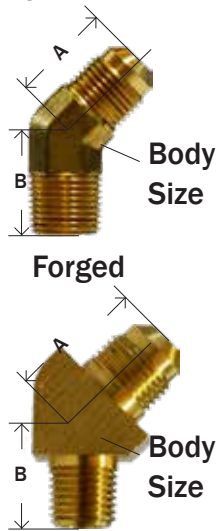
BRASS

**SAE 45° FLARE**

BRASS FITTINGS

**45° ELBOW**

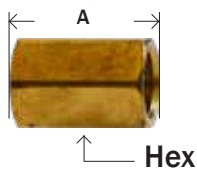
SAE# 010302

54  
4945  
40945**Barstock**

PART #	MALE FLARE X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	LIST PRICE
10448	1/4" x 1/8"	0.67	0.64	0.41	0.04	----
10448B*	1/4" x 1/8"	0.67	0.64	0.44	0.04	----
10449	1/4" x 1/4"	0.75	0.86	0.53	0.07	----
10450	5/16" x 1/8"	0.78	0.64	0.53	0.06	----
10451	5/16" x 1/4"	0.81	0.86	0.53	0.07	----
10452	3/8" x 1/4"	0.91	0.86	0.53	0.09	----
10452B*	3/8" x 1/4"	0.89	0.86	0.64	0.12	----
10453	3/8" x 3/8"	0.93	0.94	0.59	0.11	----
10454	3/8" x 1/2"	0.99	1.17	0.75	0.19	----
10455	1/2" x 3/8"	1.07	0.88	0.59	0.12	----
10455B*	1/2" x 3/8"	1.06	0.94	0.76	0.18	----
10456	1/2" x 1/2"	1.12	1.18	0.75	0.20	----
10460	5/8" x 3/8"	1.13	0.95	0.81	0.22	----
10457	5/8" x 1/2"	1.12	1.17	0.78	0.18	----
10458	3/4" x 1/2"	1.28	1.16	0.88	0.26	----

\* Barstock

E145 54 159F 654F 59FF 254 47 4945

**FEMALE 45° FLARE FITTINGS****UNION**600  
600F**Hex**

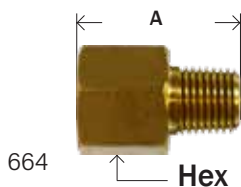
SAE# 010107 • Use with Copper Gasket

PART #	FEMALE FLARE X FEMALE FLARE	A	HEX	APPROX. WT. LBS.	LIST PRICE
10135	1/4"	1.00	0.62	0.06	----
10136	3/8"	1.25	0.81	0.14	----
10137	1/2"	1.43	0.94	0.18	----
10138	5/8"	1.69	1.07	0.24	----
10139	3/4"	2.00	1.31	0.42	----

2310 U4 660HD 32

**FEMALE FLARE ADAPTER**

SAE# 010106



664

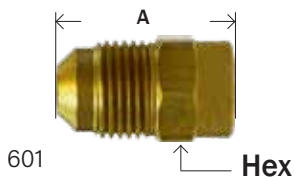
**Hex**

PART #	FEMALE FLARE X MALE NPTF	A	HEX	APPROX. WT. LBS.	LIST PRICE
10440	1/4" x 1/8"	0.91	0.62	0.05	----
10441	1/4" x 1/4"	1.01	0.62	0.06	----
10442	3/8" x 1/4"	1.28	0.81	0.10	----
10438	3/8" x 1/2"				
10443	1/2" x 3/8"	1.36	0.94	0.14	----
10444	1/2" x 1/2"	1.46	0.94	0.14	----
10439	5/8" x 1/2"				

U5 664FHD 33 48-FF

**FLARE REDUCER**

SAE# 010105



601

**Hex**

PART #	MALE FLARE X FEMALE FLARE	A	HEX	APPROX. WT. LBS.	LIST PRICE
10462	1/4" x 3/8"	1.22	0.81	0.10	----
10461	1/4" x 1/2"	1.36	0.94	0.14	----
10463 *	3/8" x 1/4"	1.12	0.62	0.06	----
10464	3/8" x 1/2"	1.44	0.94	0.14	----
10473	3/8" x 5/8"	1.63	1.12	0.16	----
10467	1/2" x 3/8"	1.41	0.81	0.13	----
10468	1/2" x 5/8"	1.68	1.06	0.20	----
10469	5/8" x 1/2"	1.63	1.00	0.17	----
10470	5/8" x 3/4"	1.97	1.31	0.31	----

• More sizes available

\* Available in Stainless Steel. Add SS to the part#

UR3 661FHD 227 46-FF

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

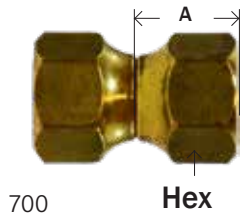
# SAE 45° FLARE

## BRASS FITTINGS

### BRASS FLARE SWIVEL FITTINGS

#### FORGED SWIVEL

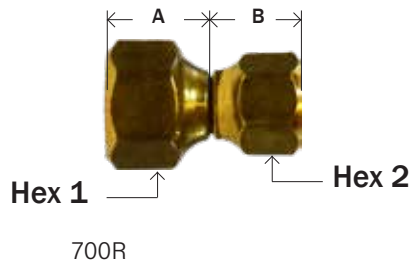
SAE# 010108



PART #	FEMALE FLARE UNF	A	HEX	APPROX. WT. LBS.	LIST PRICE
10481	1/4"	0.59	0.62	0.04	----
10482	5/16"	0.62	0.68	0.06	----
10483	3/8"	0.69	0.81	0.10	----
10483L	3/8"	0.63	0.80		----
10484	1/2"	0.81	0.94	0.16	----
10484L	1/2"	0.82	0.92		----
10485	5/8"	0.94	1.06	0.24	----
10486	3/4"	1.12	1.31	0.34	----

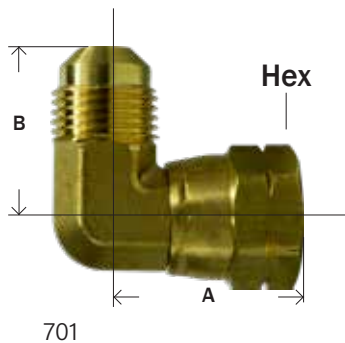
1350 US4 14FSV 34

#### REDUCING SWIVELS



PART #	FEMALE FLARE UNF	A	B	HEX 1	HEX 2	APPROX. WT. LBS.	LIST PRICE
10487	3/8" x 1/4"	0.72	0.60	0.81	0.62	0.08	----
10488	1/2" x 3/8"	0.84	0.70	0.94	0.81	0.12	----
10489	5/8" x 1/2"	0.98	0.82	1.03	0.94	0.22	----

#### FORGED SWIVEL ELBOWS



PART #	MALE FLARE X FEMALE FLARE	A	B	HEX	APPROX. WT. LBS.	LIST PRICE
10493	1/4"	0.93	0.86	.563	0.12	----
10494	3/8"	1.13	1.1	.75	0.20	----
10495	1/2"	1.29	1.20	.88	0.25	----
10496	5/8"	1.50	1.30	1.00	0.37	----
10497	3/4"	1.83	1.60	1.25	0.54	----

ES4

#### FLARE SWEAT FITTINGS



PART #	FLARE X SWEAT	LIST PRICE
10600	1/4" x 1/4"	----
10602	1/4" x 3/8"	----
10620	3/8" x 1/4"	----
10612	3/8" x 3/8"	----
10613	3/8" x 1/2"	----
10621	1/2" x 1/2"	----
10611	1/2" x 5/8"	----
10614	5/8" x 5/8"	----
10622	5/8" x 7/8"	----
10615	3/4" x 3/4"	----
10616	3/4" x 7/8"	----
10617	7/8" x 7/8"	----
10618	1" x 1-1/8"	----
10619	1-1/8" x 1-1/8"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



# SPACE HEATER/ GAS RANGE FITTINGS

## BRASS FITTINGS

### SPACE HEATER FITTINGS

#### 9/16-24 FINE THREAD FLARE NUT

#M-82SH

41FT  
800

PART #	SIZE	
14001	3/8	----

#### FEMALE ADAPTER

#M-80SH

46FT  
805

PART #	SIZE	
14018	3/8 x 3/8	----
14025	3/8 x 1/2	----

#### MALE ADAPTER

#M-83SH



PART #	SIZE	
14016	3/8 x 3/8	----
14017	3/8 x 1/2	----

#### UNION



PART #	SIZE	
14011	3/8	----

### BRASS GAS RANGE FITTINGS

#### BRASS MALE ADAPTERS 15/16-16 FLARE THREAD

45RG  
408RC

PART #	MALE FLARE X MALE NPTF	
35130	3/8" x 3/8"(1/8 Tap)	----
35133	3/8" x 3/8"(1/4 Tap)	----
35131	3/8" x 1/2"(3/8 Tap)	----
35132	1/2" x 1/2" (3/8" FIP TAP)	----
35134	15/16" x 1/2"	----
35135	15/16" x 3/4" (1/2" FIP TAP)	----

#### BRASS FEMALE ADAPTERS



PART #	FLARE X FIP	
35136	15/16" x 1/2"	----
35142	15/16" x 3/4"	----

#### DRUM ADAPTERS

K1

• Straight  
Thread

SAE# 010165

PART #	MALE FLARE X FIP	
50011	1/4" x 1/2"	----
50001	1/4" x 3/4"	----

RD IF K1

#### CAP



PART #	SIZE	
35186	15/16"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# POL FITTINGS

## BRASS FITTINGS

### TEE CONNECTION

2000



PART #	PIPE SIZE	
34001	1/4" Inverted flare x 1/4" MPT	----

41-1-390-0014 2000

### TAILPIECE WITH FLATS

2001A

1/4 NPT



PART #	DESCRIPTION	
34011	2.34 w/ wrench Flats	----

1001AUL 21605 M-2001-A 2002A 2001AHN

### STANDARD NUT

7/8" Hex

2001B



PART #	PIPE SIZE	
34016	.880-14 LH	----

2001B

### TAILPIECE & NUT ASSEMBLY

2002AB



PART #	PIPE SIZE	
34022	1/4	----

2002AB

### POL CAP

2004



PART #	PIPE SIZE	
34031	.880-14LH	----

ME1699 POL2004 1004A M-2004

### POL PLUG WITH CHAIN

2014



PART #	DESCRIPTION	
34141	POL PLUG WITH CHAIN	----

ME1691-1

### SINGLE PIECE POL ADAPTER

2008



PART #	DESCRIPTION	
34130	MALE POL X 1/4 FPT	----
34131	MALE POL X 1/2 FPT	----

ME351 ME357

### ADAPTERS

35792  
35810



PART #	PIPE SIZE	
34041	3/8 Flare x .880-14LH	----
34046	1/2 Flare x .880-14LH	----
34051	5/8 Flare x .880-14LH	----

ME3510 2906E 2007

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**POL FITTINGS**

## BRASS FITTINGS

**TAILPIECE ASSEMBLY W/HEX HEAD  
NUT & STEM**

PART #	LENGTH	
34080	1/4 NPT X POL 2 LONG HARD NOSE 2 OAL	----
34082	MALE POL X 3/8 NPT	----

2906D ME352



PART #	LENGTH	
34088	MPOL HARD NOSE 9/16- 18 FE LH THREAD	----

ME1650



PART #	LENGTH	
34084	MPOL X 1/4 HOSE BARB 7/8 HEX	----

ME5930 970JR

**SOFT NOSE TAILPIECE ASSEMBLY**

PART #	LENGTH	
34060	1/4 NPT X POL 2.1 LONG #60 ORIFICE	----
34061	1/4 MPT X POL SOFT NOSE 2-1/2	----
34062	1/4 NPT POL SOFT NOSE #60 ORIFICE 2.3 LONG	----
34063	POL X 9/16-18 LH TAIL- PIECE SOFT NOSE	----
34064	1/4 NPT X POL SOFT NOSE 2 3/8 LONG	----

ME1638 2003-T-GH-60 2002 2018-L 2003-T 970S

**HAND WHEEL POL ADAPTERS**

PART #	LENGTH	
34065	MPOL SOFT NOSE X 1/4 HOSE BARB BR.WHEEL	----

ME1656AR



PART #	LENGTH	
34072	1/4 MPT POL SOFT NOSE W/PLASTIC WHEEL	----

ME1654



PART #	LENGTH	
34073	1/4 MPT POL SOFT NOSE WITH BRASS WHEEL	----

ME1654AR



PART #	LENGTH	
34074	MPOL SOFT NOSE X 1/4 HB W/PLASTIC WHEEL	----

ME1656

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# POL FITTINGS

## BRASS FITTINGS

### PROPANE MOTOR FUEL FILL ADAPTER



- Allows a standard POL fitting to be adapted to fill an engine fuel tank.

PART #	LENGTH	
34079	FE POL X 1 3/4 ACME FUEL FILL ADPT	----

ME458 2017

### FEMALE POL X MIP ADAPTER



PART #	LENGTH	
34111	1/4 MPT X FE POL ADAPTER	----
34112	3/8 MPT X FE POL ADAPTER	----
34113	1/2 MPT X FE POL ADAPTER	----
34114	3/4 MPT X FE POL ADAPTER	----

2011-B ME285 2011-D 2011-E

### FEMALE FPT X FEMALE POL ADAPTER



PART #	LENGTH	
34120	1/4 FPT X FE POL	----
34121	3/8 FPT X FE POL	----
34122	1/2 FPT X FE POL	----
34123	3/4 FPT X FE POL	----

2016-B ME302 2016-D ME304

### POL O-RING ONLY



PART #	LENGTH	
34143	POL O-RING ONLY	----

C5-OR-POL 568-110-01

### POL PLASTIC DUST PLUG



PART #	LENGTH	
34160	POL PLASTIC DUST PLUG	----

ME970P

### APPLIANCE TEE



- Tap & Add

PART #	LENGTH	
34170	M.POLXF.POL W/1-20M CYL AND 1/4 INV FLAR	----

2090



- Add an appliance

PART #	LENGTH	
34172	M.POLXF.POL W/1-20 MALE CYLINDER THREAD	----

2012



- With QCC1 connection

PART #	LENGTH	
34174	QCC1 X F. POL W/1-20 MALE CYLINDER THD	----

2013

### DUAL APPLIANCE TEE



PART #	LENGTH	
34176	M.POL X (2) OF 1-20 MALE CYLINDER THREAD	----

2099

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**JIC 37° FLARE STRAIGHTS**

## BRASS FITTINGS

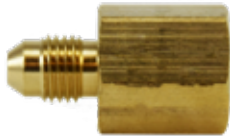
## STRAIGHT TUBE UNION



PART #	TUBE OD	TUBE THREAD	L	HEX	WORKING PRESSURE	
28966	1/4	7/16-20	1.35	0.49	3250 psi	----
28969	3/8	9/16-18	1.41	0.63	3250 psi	----
28970	1/2	3/4-16	1.62	0.81	3250 psi	----
28971	3/4	1-1/16-12	2.14	1.13	3250 psi	----
28972	1"	1-5/16-12	2.25	1.38	2600 psi	----

SBC 132403 HTXB

## FEMALE STRAIGHT ADAPTER



PART #	TUBE OD	PIPE	TUBE THREAD	L	HEX	WORKING PRESSURE	
28957	1/4	1/8-27	7/16-20	1.19	0.56	3250 psi	----
28958	1/4	1/4-18	7/16-20	1.40	0.75	3250 psi	----
28959	3/8	1/4-18	9/16-18	1.40	0.75	3250 psi	----
28960	3/8	3/8-18	9/16-18	1.40	0.88	3250 psi	----
28961	1/2	3/8-18	3/4-16	1.56	0.88	3250 psi	----
28962	1/2	1/2-14	3/4-16	1.79	1.13	3250 psi	----
28963	5/8	1/2-14	7/8-14	1.87	1.13	3250 psi	----
28964	3/4	3/4-1/4	1-1/16-12	2.06	1.38	2600 psi	----

## STRAIGHT



PART #	TUBE OD	A NPTF	TUBE THREAD	L	HEX	WORKING PRESSURE	
28701	1/4	1/8-27	7/16-20	1.22	0.45	3250 psi	----
28702	1/4	1/4-18	7/16-20	1.37	0.56	3250 psi	----
28703	1/4	3/8-18	7/16-20	1.42	0.75	3250 psi	----
28704	5/16	1/8-27	1/2-20	1.41	0.56	3250 psi	----
28705	5/16	1/4-18	1/2-20	1.42	0.56	3250 psi	----
28706	3/8	1/8-27	9/16-18	1.24	0.63	3250 psi	----
28707	3/8	1/4-18	9/16-18	1.43	0.63	3250 psi	----
28708	3/8	3/8-18	9/16-18	1.38	0.75	3250 psi	----
28709	3/8	1/2-14	9/16-18	1.69	0.88	3250 psi	----
28710	1/2	1/4-18	3/4-16	1.53	0.81	3250 psi	----
28711	1/2	3/8-18	3/4-16	1.53	0.81	3250 psi	----
28712	1/2	1/2-14	3/4-16	1.79	0.88	3250 psi	----
28713	1/2	3/4-14	3/4-16	1.85	1.13	2600 psi	----
28714	5/8	3/8	7/8-14	1.84	0.94	3250 psi	----
28715	5/8	1/2-14	7/8-14	1.89	0.94	3250 psi	----
28716	5/8	3/4-14	7/8-14	1.95	1.13	2600 psi	----
28748	3/4	1/2-14	1 1/16-12	2.06	1.13	2925 psi	----
28717	3/4	3/4-14	1 1/16-12	2.06	1.13	2600 psi	----
28749	3/4	1-11 1/2	1 1/16-12	2.25	1.38	1950 psi	----
28719	1	3/4-14	1 5/16-12	2.06	1.13	2275 psi	----
28718	1	1-11 1/2	1 5/16-12	2.3	1.38	1950 psi	----

B2404 SB FTXB

## STRAIGHT SWIVEL ADAPTER



PART #	TUBE OD	A NPTF	TUBE THREAD	L	HEX	WORKING PRESSURE	
28752	1/4	1/4-18	7/16-20	1.389	.563	3250 psi	----
28753	3/8	1/4-18	9/16-18	1.6	.563	3250 psi	----
28754	3/8	3/8-18	9/16-18	1.574	.690	2925 psi	----
28756	1/2	1/2-14	3/4-16	1.706	.875	2600 psi	----

B6505 SJS

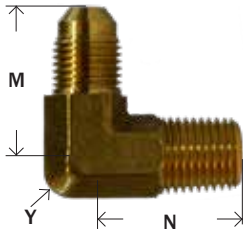
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# S/B JIC 37° SHAPES

## BRASS FITTINGS

### 90° FORGED ELBOW

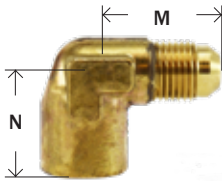


• Swivel available

PART #	TUBE OD	TUBE THREAD	A NPTF	M	N	Y	WORKING PRESSURE	
28760F	1/4	7/16-20	1/8-27	0.89	0.78	0.5	2160 psi	----
28762F	1/4	7/16-20	1/4-18	1.05	1.03	0.53	1846 psi	----
28766F	5/16	1/2-20	1/4-18	1.10	1.10	0.55	3905 psi	----
28768F	3/8	9/16-18	1/8-27	1.06	1.00	0.56	3128 psi	----
28770F	3/8	9/16-18	1/4-18	1.06	1.09	0.54	1564 psi	----
28772F	3/8	9/16-18	3/8-18	1.15	1.22	0.74	1464 psi	----
28773F	3/8	9/16-18	1/2-14	1.22	1.47	0.90	1265 psi	----
28774F	1/2	3/4-16	3/8-18	1.25	1.22	0.81	1467 psi	----
28777F	1/2	3/4-16	1/2-14	1.31	1.47	0.90	1265 psi	----
28778F	1/2	3/4-16	3/4-14	1.4	1.59	0.89	2061 psi	----
28780F	5/8	7/8-14	1/2-14	1.45	1.47	0.88	1265 psi	----
28781F	3/4	1 1/16-12	1/2-14	1.66	1.56	1.08	1265 psi	----
28783F	3/4	1 1/16-12	3/4-14	1.66	1.59	1.06	1084 psi	----
28784F	1	1 5/16-12	3/4-14	1.88	1.77	1.32	1802 psi	----
28786F	1	1 5/16-12	1-11 1/2	1.81	1.97	1.3	2361 psi	----

DL3B2 3F69CL GGL6A1 F23L2 EE48D3 EE46B2 FF45A2 F48C3 FF22C3 D49B1 D25B1 3F47C1

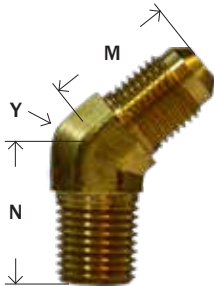
### FEMALE ELBOW FORGED BODY



PART #	TUBE OD	TUBE THREAD	A NPTF	M	N	WORKING PRESSURE	
28973	1/4	7/16-20	1/8-27	1.08	0.66	2797 psi	----
28974	1/4	7/16-20	1/4-18	1.25	0.55	3066 psi	----
28975	3/8	9/16-18	1/4-18	1.23	0.88	2842 psi	----

B2502 EBF DTXB

### 45° FORGED ELBOW



• Swivel available

PART #	TUBE OD	TUBE THREAD	A NPTF	M	N	Y	WORKING PRESSURE	
28722F	1/4	7/16-20	1/8-27	0.72	0.64	0.5	4367 psi	----
28724F	1/4	7/16-20	1/4-18	0.81	0.84	0.53	3750 psi	----
28728F	5/16	1/2-20	1/4-18	0.88	0.86	0.54		
28729F	3/8	9/16-18	1/8-27	0.83	0.65	0.63	3128 psi	----
28731F	3/8	9/16-18	1/4-18	0.83	0.86	0.63	3128 psi	----
28733F	3/8	9/16-18	3/8-18	0.91	0.95	0.81	3100 psi	----
28734F	3/8	9/16-18	1/2-14	1.03	1.17	0.94	2826 psi	----
28736F	1/2	3/4-16	3/8-18	0.98	0.95	0.75	2938 psi	----
28738F	1/2	3/4-16	1/2-14	1.13	1.17	0.86	2826 psi	----
28740F	5/8	7/8-14	1/2-14	1.13	1.08	0.88		
28742F	3/4	1 1/16-12	3/4-14	1.28	1.2	1.13	2442 psi	----

B2503 FBC-F VTXB

#### THREAD CHART

SIZE	JIC THREAD
1/8	5/16-24
3/16	3/8-24
1/4	7/16-20
5/16	1/2-20
3/8	9/16-18
1/2	3/4-16
5/8	7/8-14
3/4	1-1/16-12
1	1-5/16-12

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**INVERTED FLARE**

BRASS FITTINGS

**INVERTED FLARE FITTINGS**

Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Thread O.D. threads per inch	5/16-28	3/8-24	7/16-24	1/2-20	5/8-18	11/16-18	3/4-18	7/8-18	1-1/16-16	1-3/16-16	1-5/16-16

**•Typical Application**

Hydraulic brake, power steering, fuel lines and transmission cooler lines, LP and natural gas.

**•Working Pressure Ranges**

Temperature and type of tubing used are important factors. However, the following table is a

PSI	Tube O.D. (in.)	Tube Wall (in.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035

good guide for proper selection. Temperature 73°F with copper tubing:

**•Vibration**

Excellent resistance.

**•Temperature Range**

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures.

**•Used With**

Copper, brass, aluminum and steel hydraulic tubing that can be flared.

**•Advantages**

Very low cost and reusable. Seats and threads are internal and protected. Compact, excellent vibration life. Short nut affords very close tube bends. Steel or brass

tube nut.

**• Tolerance**

+/- .03 on all dimensions.

**•Conformance**

Meets specifications and standards of ASA, ASME, SAE and MS (Military Standards).

**•Assembly Instructions**

1-Cut tubing to desired length. Make sure all burrs are removed and the ends are cut square.

2- Slide nut on tube. Threaded end "A" of nut must face out.

3- Flare end of tube with a 45° flaring tool.

a- Measure flare diameter.

b- Examine flare for excessive thin out.

c- On thin wall, welded or brazed tubing, use double flare to prevent pinch-off and cracked flares.

4- Lubricate threads and assemble to fitting body. Nut should be turned hand tight.

**STANDARD METRIC THREADS**

Description Tube Size	Thread O.D.	Crest (Pitch)	Thread Description
Japanese 3/16"	10mm	1.0mm	M10 x 1.0
European 3/16"	10mm	1.0mm	M10 x 1.0
GM 6mm	12mm	1.0mm	M12 x 1.0
Fuel 5/16"	14mm	1.5mm	M14 x 1.5
Fuel 3/8"	16mm	1.5mm	M16 x 1.5

**Measuring Metric Threads:** Measure the O.D. of the threads and the crest to crest distance (pitch) in millimeters between threads.

Actual O.D. of male inverted flare threads

5/16"-28 2800 PSI    3/8"-24 1900 PSI    7/16"-24 1400 PSI    1/2"-20 1200 PSI    5/8"-18 1000 PSI

3/4"-18 750 PSI

7/8"-18 650 PSI

1-1/16"-16 550 PSI

1/8"

3/16"

1/4"

5/16"

3/8"

1/2"

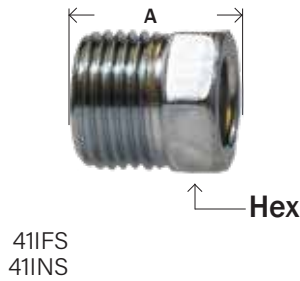
5/8"

3/4"

# INVERTED FLARE

BRASS FITTINGS

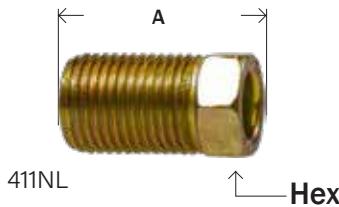
## ZINC CHROMATE STEEL NUT



SAE# 040110						
PART #	SIZE	THREAD	A	HEX	APPROX. WT. LBS.	
12001	1/8"	5/16-28	0.52	0.31	0.01	----
12002	3/16"	3/8-24	0.56	0.37	0.02	----
12018	3/16"	7/16-24	0.56	0.43	0.02	----
12003	1/4"	7/16-24	0.56	0.43	0.02	----
12004	5/16"	1/2-20	0.62	0.50	0.02	----
12005	3/8"	5/8-18	0.66	0.62	0.03	----
12000	7/16"	11/16-18	0.68	0.68	0.04	----
12011	3/8"	11/16-18	0.66	0.68	0.05	----
12006	1/2"	3/4-18	0.74	0.75	0.08	----
12007	5/8"	7/8-18	0.80	0.87	0.10	----
12008	3/4"	1-1/16-16	0.88	1.06	0.10	----
12083	7/8"	1-3/16-16	1.07	1.19	0.14	----
12084	1"	1-5/16-16	1.18	1.375	0.21	----

121XXX 2105 411FS 105 41W

## LONG STEEL NUT

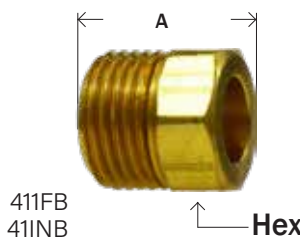


FOR DOMESTIC LINES

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
12009	3/16"	0.84	0.37	0.02	----
12010	1/4"	0.81	0.43	0.02	----

7896

## INVERTED FLARE BRASS NUT



SAE# 040110

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
12012	1/8"	0.52	0.31	0.01	----
12013	3/16"	0.56	0.37	0.01	----
12014	1/4"	0.56	0.43	0.02	----
12015	5/16"	0.62	0.50	0.03	----
12016	3/8"	0.66	0.62	0.04	----
12017	1/2"	0.74	0.75	0.05	----

• More sizes available

2100 411F 100 41B



PART #	TUBESIZE	THREAD	REF#	
12260	3/16 British	3/8-24 Bubble	---	----
12261	3/16 European	M10 x 1.0 Bubble	276110	----
12262	3/16 Japanese	M10 x 1.0 Inv.	121050	----
12263	3/16 Domestic	1/2 x 20 Inv.	---	----
12264	3/16 Domestic	9/16 - 18 Inv.	121039	----
12265	3/16 Imported	M11 x 1.5 Bubble	276011	----
12266	3/16 Imported	M12 x 1.0 Bubble	276012	----
12267	3/16 Imported	M13 x 1.5 Bubble	276013	----
12268	1/4 Domestic	9/16 x 18 Inv.	121049	----
12269	1/4 Domestic	1/2 x 20 Inv.	121045	----
12270	6mm Imported	M12 x 1.0 Bubble		----
12271	6mm GM	M12 x 1.0 Bubble		----
12272	6mm GM	M12 x 1.5 Bubble		----
12273	6mm GM	M14 x 1.5 Bubble		----
12274	5/16 Domestic	M14 x 1.5 Surface Seal	121069	----
12275	3/8 Domestic	M16 x 1.5 Surface Seal	121070	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

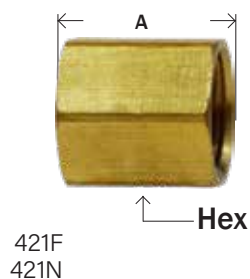
BRASS

**INVERTED FLARE**

## BRASS FITTINGS

**UNION INTERNAL**

SAE# 040101



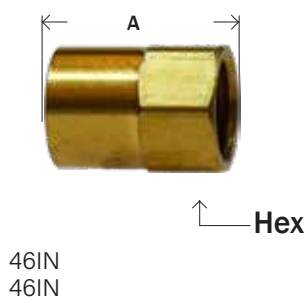
PART #	INV. FLARE X INV. FLARE	A	HEX	APPROX. WT. LBS.	
12022	1/8"	0.59	0.40	0.02	----
12023	3/16"	0.62	0.43	0.02	----
12024	1/4"	0.62	0.50	0.03	----
12025	5/16"	0.70	0.56	0.04	----
12026	3/8"	0.80	0.75	0.08	----
12027	1/2"	0.91	0.90	0.10	----
12028	5/8"	1.31	1.06	0.22	----

see page 72 for metric unions

302 2300 421FHD

**FEMALE ADAPTER**

SAE# 040103



PART #	INV. FLARE X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
12029	1/8" x 1/8"	0.716	0.50	0.03	----
12032	3/16" x 1/8"	0.75	0.50	0.02	----
12033	1/4" x 1/8"	0.75	0.53	0.02	----
12030	1/4" x 1/4"	1.01	0.751	0.11	----
12034	5/16" x 1/8"	0.78	0.59	0.04	----
12035	3/8" x 1/4"	1.03	0.75	0.08	----
12031	7/16" x 1/4"	1.06	0.81	0.11	----
12037	1/2" x 1/4"	1.09	0.90	0.12	----
12036	1/2" x 3/8"	1.10	0.90	0.12	----
12039	5/8" x 1/2"	1.32	1.065	0.19	----
12099	3/4" x 3/4"	1.50	1.25	0.36	----

461FHD 252 46W

**MALE ADAPTER**

SAE# 040102



PART #	INV. FLARE X MALE NPTF	A	HEX	APPROX. WT. LBS.	
12041	1/8" x 1/8"	0.63	0.40	0.02	----
12042	3/16" x 1/8"	0.70	0.43	0.02	----
12053	3/16" x 1/4"	0.72	0.56	0.04	----
12043	1/4" x 1/8"	0.74	0.50	0.03	----
12044	1/4" x 1/4"	0.89	0.56	0.04	----
12045	5/16" x 1/8"	0.79	0.56	0.03	----
12046	5/16" x 1/4"	0.98	0.56	0.05	----
12055	5/16" x 3/8"	1.01	0.75	0.07	----
12047	3/8" x 1/8"	0.88	0.72	0.05	----
12048	3/8" x 1/4"	1.02	0.75	0.06	----
12049	3/8" x 3/8"	1.02	0.75	0.08	----
12104	7/16" x 1/4"	1.05	0.81	0.06	----
12038	1/2" x 1/4"	0.97	0.87	0.10	----
12050	1/2" x 3/8"	1.06	0.87	0.08	----
12051	1/2" x 1/2"	1.06	0.87	0.11	----
12052	5/8" x 1/2"	1.32	1.06	0.15	----
12105	3/4" x 1/2"	1.38	1.25	0.18	----
12040	3/4" x 3/4"	1.39	1.25	0.24	----
12107	7/8" x 3/4"	1.375	1.375	0.21	----
12108	1" x 1"	1.62	1.50	0.37	----

2200 481FHD 202 48W 200

Dimension data can change without notice. Please check when dimensions are critical.

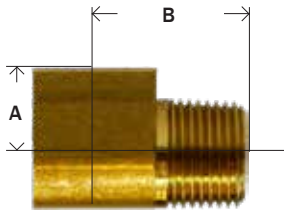
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# INVERTED FLARE

## BRASS FITTINGS

### ELBOW

SAE# 040202



491N  
491F

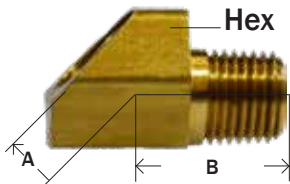
PART #	INV. FLARE X MALE NPTF	A	B	APPROX. WT. LBS.	
12057	1/8" x 1/8"	0.26	0.59	0.03	----
12058	3/16" x 1/8"	0.26	0.61	0.03	----
12059	1/4" x 1/8"	0.33	0.65	0.04	----
12054*	1/4" x 1/8"	0.33	0.65	0.04	----
12060	1/4" x 1/4"	0.28	0.82	0.06	----
12061	5/16" x 1/8"	0.47	0.68	0.05	----
12062	5/16" x 1/4"	0.45	0.85	0.08	----
12082	5/16" x 3/8"	0.47	0.86	0.12	----
12063	3/8" x 1/8"	0.54	0.76	0.14	----
12064	3/8" x 1/4"	0.53	0.92	0.14	----
12065	3/8" x 3/8"	0.50	0.94	0.12	----
12114	1/2" x 1/4"	0.72	1.08	0.14	----
12066	1/2" x 3/8"	0.59	1.03	0.16	----
12067	1/2" x 1/2"	0.66	1.22	0.25	----
12056	5/8" x 3/8"	0.67	1.09	0.20	----
12068	5/8" x 1/2"	0.67	1.29	0.18	----
12069	3/4" x 1/2"	0.80	1.39	0.42	----
12080	7/8" x 3/4"	0.94	1.43	0.48	----
12081	1" x 1"	1.02	1.69	0.60	----

400 2400 2491FHD 402 2491F 49W

\* Restricted pipe end .062

### 45° ELBOW

SAE# 040302



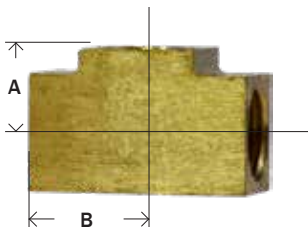
591F  
941N

PART #	INV. FLARE X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
12070	1/8" x 1/8"	0.22	0.48	0.50	0.03	----
12072	3/16" x 1/8"	0.25	0.55	0.53	0.02	----
12073	1/4" x 1/8"	0.27	0.58	0.56	0.04	----
12074	5/16" x 1/8"	0.36	0.56	0.62	0.06	----
12075	5/16" x 1/4"	0.23	0.83	0.62	0.06	----
12115	3/8" x 1/8"	0.34	0.87	0.87	0.09	----
12076	3/8" x 1/4"	0.51	0.84	0.78	0.09	----
12077	1/2" x 3/8"	0.38	0.91	0.84	0.11	----
12079	5/8" x 1/2"	0.44	1.00	1.06	0.21	----

154 2352 2591FHD 352 94W

### UNION TEE

SAE# 040401



441F  
441N

PART #	SIZE	A	B	APPROX. WT. LBS.	
12085	1/8"	0.33	0.47	0.04	----
12086	3/16"	0.39	0.55	0.04	----
12087	1/4"	0.42	0.56	0.08	----
12088	5/16"	0.45	0.63	0.09	----
12089	3/8"	0.56	0.74	0.17	----
12090	1/2"	0.67	0.88	0.24	----

2441FHD 702 441

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



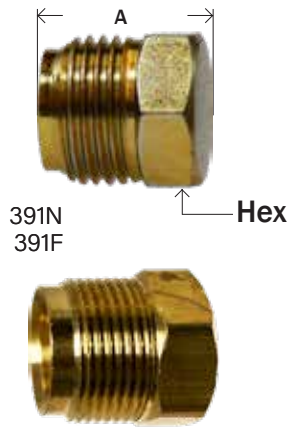
**INVERTED FLARE**

## BRASS FITTINGS

**STEEL PLUG**

SAE# 040109

• cored

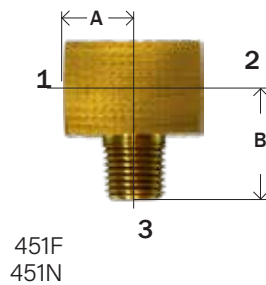


PART #	SIZE	A	HEX	APPROX. WT. LBS.	
12091	3/16"	0.53	0.37	0.01	----
12092	1/4"	0.54	0.43	0.02	----
12093	5/16"	0.59	0.50	0.03	----
12094	3/8"	0.66	0.62	0.04	----
<b>Brass</b>					
12095	3/8"	0.66	0.63	0.04	----
12096	1/2"	0.82	0.75	0.07	----
12097	5/8"	0.90	0.87	0.10	----
12098	3/4"	0.95	1.07	0.17	----

106 41IP 131 2131

**MALE BRANCH TEE**

SAE# 040425

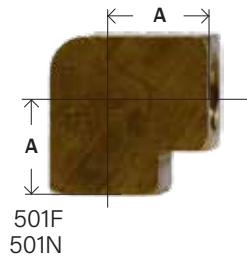
451F  
451N

PART #	INV. FLARE X MALE NPTF (1&2)X3	A	B	APPROX. WT. LBS.	
12100	3/16" x 1/8"	0.41	0.60	0.04	----
12101	1/4" x 1/8"	0.42	0.64	0.06	----
12102	5/16" x 1/8"	0.47	0.68	0.07	----
12103	3/8" x 1/4"	0.58	0.93	0.15	----

145 245IFHD 602 2600 600

**FEMALE ELBOW**

SAE# 040203

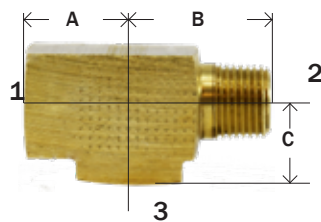
501F  
501N

PART #	INV. FLARE X FEMALE NPTF	A	APPROX. WT. LBS.	
12110	1/4" x 1/8"	0.55	0.07	----
12111	5/16" x 1/8"	0.51	0.08	----
12112	3/8" x 1/4"	0.68	0.10	----

450

**MALE RUN TEE**

SAE# 040424

511F  
511N

PART #	INV. FLARE X MALE NPTF (1&3)X2	A	B	C	APPROX. WT. LBS.	
12118	3/16" x 1/8"	0.53	0.72	0.39	0.06	----
12119	1/4" x 1/8"	0.56	0.75	0.42	0.08	----
12120	5/16" x 1/8"	0.62	0.85	0.45	0.10	----
12121	3/8" x 1/4"	0.75	1.08	0.56	0.14	----

251IFHD 752 550 151

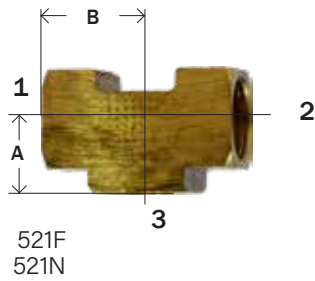
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# INVERTED FLARE

## BRASS FITTINGS

### FEMALE BRANCH TEE

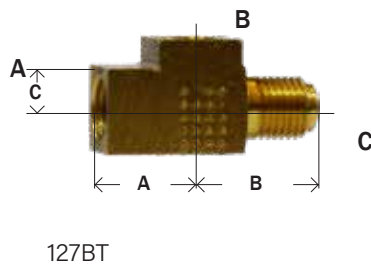
SAE# 040427



PART #	INV. FLARE X FEMALE NPTF (1&2)X3	A	B	APPROX. WT. LBS.	
12127	3/16" x 1/8"	0.39	0.55	0.06	----
12129	5/16" x 1/8"	0.45	0.63	0.12	----
12130	3/8" x 1/4"	0.56	0.74	0.17	----

2521FHD 652 136

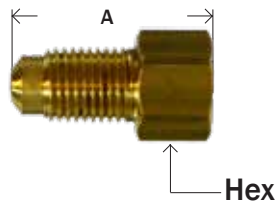
### TOWED TRAILER BRAKE TEE



PART #	A	B	C	REFERENCE #	APPROX. WT. LBS.	
12147	3/16" 0.57	3/16" 0.76	3/16" 0.42	7900	0.08	----
12145	3/16" (1/2-20) 0.68	3/16" (3/8-24) 0.94	3/16" (1/2-20) 0.47	7906	0.17	----
12148	3/16" (9/16-18)	3/16" (3/8-24)	3/16" (9/16/18)	7933	0.10	----
12144	3/16" (9/16-20) 0.82	3/16" (3/8-24) 0.94	3/16" (9/16-20) 0.47	7905	0.18	----
12146	3/16" (7/16-24) 0.54	3/16" (3/8-24) 0.78	3/16" (7/16-24) 0.42	7914	0.08	----
12150	1/4" 0.56	3/16" 0.77	1/4" 0.43	7901	0.10	----
12149	1/4" (9/16-18) 0.81	3/16" (3/8-24) 0.93	1/4" (9/16-18) 0.50	7904	0.10	----
12151	1/4" 0.56	1/4" 0.77	1/4" 0.43	7898	0.12	----

### INVERTED FLARE AUTO FITTINGS

### DUAL MASTER CYLINDER ADAPTER



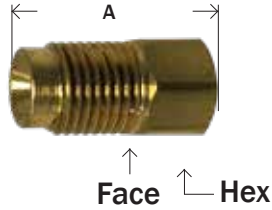
PART #	MALE FLARE X FEMALE INV.	A	HEX	REFERENCE #	APPROX. WT. LBS.	
12200	3/16" x 3/16"	1.00	0.50	1441	0.03	----
12202	5/16" x 3/16"	0.96	0.68	7897	0.07	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**INVERTED FLARE**

## BRASS FITTINGS

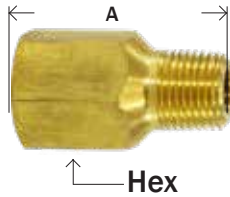
**DUAL MASTER CYLINDER ADAPTER**

\* Seals on hex face

48STA  
6641N  
6011N

PART #	MALE INVERTED THREAD	FEMALE INVERTED THREAD	REF#	
12206	3/16(9/16-18)	3/16	7911	----
12209	3/16(9/16-18)	3/16(1/2-20)	7913	----
12207	3/16(9/16-20)	3/16	7910	----
12210	3/16	1/4	7828	----
12212	1/4	3/16	7818	----
12214*	7/16-20	1/4	7732	----
12211	1/4(9/16-18)	1/4	7908	----
12215	1/4	5/16	7917	----
12213*	5/16	3/16	7817	----
12216	5/16	3/16	7909	----
12208	5/16	3/16(9/16-18)	7912	----
12218*	5/16	1/4	7727	----
12220	5/16	1/4	7829	----
12222*	5/16	5/16	1074	----
12221	5/16	3/8	7915	----
12224	3/8" NPTF	5/16	7771	----
12217	3/8	5/16	7916	----

47W

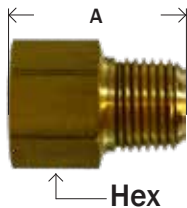
**CARBURETOR TO FUEL LINE ADAPTER - FORD**

PART #	FEMALE TUBE OD X MALE NPTF	A	HEX	REF #	APPROX. WT. LBS.	
12230	1/4"(1/2-20) x 1/8"	1.06	0.56	1513	0.04	----

1513

**RESTRICTION PIPE ADAPTER**

(.0625 ORIFICE)



PART #	SIZE FIP X MIP	A	HEX	REF #	APPROX. WT. LBS.	
12310	1/8"	0.75	0.50	1512	0.02	----

1510

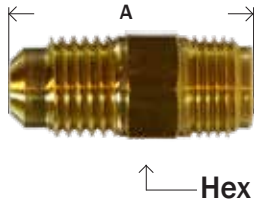
Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# INVERTED FLARE

## BRASS FITTINGS

### SAE FLARE X INVERTED FLARE

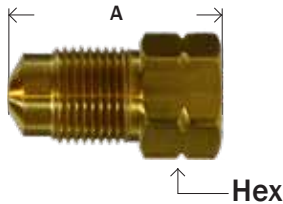


PART #	SAE FLARE X INV. FLARE	A	HEX	REF #	APPROX. WT. LBS.	
12250	1/4" x 3/16"	1.03	0.43	1518	0.02	----
12252	1/4" x 1/4"	1.03	0.43	1522	0.03	----
12254	3/8" x 5/16"	1.34	0.63	1553	0.08	----
12256	3/8" x 3/8"	1.37	0.63	1563	0.09	----
12257	3/8" x 7/16"	1.40	0.68	1554	0.10	----

4205

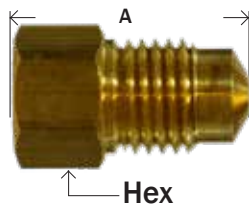
### METRIC HYDRAULIC BRAKE FITTINGS

#### METRIC ADAPTER



PART #	BUBBLE MALE THREAD	TUBE O.D./ FEMALE THREAD	A	HEX	REF #	APPROX. WT. LBS.	
12335	M10x1.0	3/16"(3/8-24)	1.02	0.50	1442	0.02	----
12326	M11x1.5	3/16"(M10x1.0)	1.06	0.50	7935	0.02	----
12327	M12x1.0	3/16"(M10x1.0)	1.02	0.53	7936	0.04	----
12328	M16x1.5	3/16"(M10x1.0)	1.02	0.56	7937	0.06	----

#### ADAPTER STANDARD TO METRIC BUBBLE



PART #	FEMALE INV. FLARE SEAT	MALE METRIC BUBBLE FLARE	A	HEX	REF #	APPROX. WT. LBS.	
12336	3/16" (3/8-24)	11x1.5			7973		----
12337	3/16" (3/8-24)	(3/16") (10x1.25)	1.00	0.50	7970	0.02	----
12339	3/16" (3/8-24)	13x1.5	1.03	0.56	7972	0.04	----
12341	3/16" (3/8-24)	12x1.0	1.02	0.53	7974	0.04	----

#### FEMALE X MALE ADAPTERS



PART #	FEMALE STANDARD FLARE SEAT	MALE BUBBLE FLARE	MATERIAL	
12330	3/8-24 (3/16)	7/16-20	Steel	----

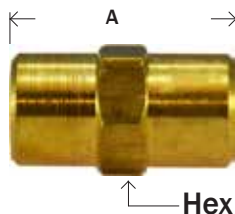


PART #	TUBE OD/ FEMALE THREAD	INVERTED MALE THREAD	REF #	
12205	3/16 (3/8-24)	M10 x 1.0	1443	----



PART #	FEMALE STANDARD FLARE	INVERTED MALE THREAD	MATERIAL	
12329	3/8-24 (3/16)	M9 x 1.0	Steel	----

#### METRIC UNION



PART #	SIZE	A	HEX	REF #	APPROX. WT. LBS.	
12342	British Brake Lines 3/16 (3/8-24 Bubble)	0.87	0.50	1594	0.03	----
12343	European Brake Lines 3/16"(10.0MM)	1.04	0.56	7975	0.04	----
12344	Japanese Brake Lines 3/16 (M10 x 1.0) Inverted	1.00	0.50	7934A	0.04	----
12345	GM Brake Lines 6mm M12 x 1.0 Bubble	1.11	0.63		0.06	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**COMPRESSION**

BRASS FITTINGS

**COMPRESSION FITTINGS**

These are NOT Lead Free  
See pages 164-166 for Lead Free products

Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8
Thread Size-B	5/16-24	3/8-24	7/16-24	1/2-24	9/16-24	5/8-24	11/16-20	13/16-18	1-18	1-1/8-18
Working Pressure	400	400	300	300	200	200	200	150	100	75

**• Typical Application**

Use with copper, aluminum and thermoplastic tubing. Not recommended for steel tubing. Manufactured for low and medium pressure tubing connection work where excessive vibration or tube movement is not involved. Not recommended for application using gaseous media.

**• Pressure**

See table above for working pressures at 73°F.

**• Vibration**

Fair resistance - use long nut when greater vibration resistance is needed.

**• Temperature Range**

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures. (Refer to tubing temperature range.)

**• Used With**

Aluminum, copper, brass and plastic tubing. Plastic tubing requires insert. Not recommended for steel tubing.

**• Tolerance**

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

**• Conformance**

Meets specifications and standards of ASA, ASME and SAE.

**• Assembly Instructions**

- 1- Cut tubing to desired length.
- 2- Slide nut and then sleeve on tube. Threaded end "A" of nut must face toward fitting.
- 3- Insert tubing into fitting body. Be sure tubing is bottomed on fitting shoulder.
- 4- Lubricate threads and assemble nut to fitting body.
- 5- Tighten nut hand tight. From that point, tighten with a wrench the number of turns indicated in the chart below.

Tube Size	Additional Turns from Hand Tight
1/8" thru 1/4" 5/16"	1-1/4"
3/8" thru 1"	2-1/4"

**• "L" at the end of a Part# means Light Pattern**

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

**Actual Profile of Compression Threads**

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

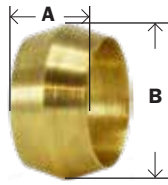


# COMPRESSION

## BRASS FITTINGS

### BRASS SLEEVE

• FERRULES



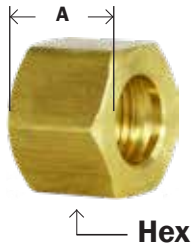
60

SAE# 060115

PART #	SIZE	A	B	APPROX. WT. LBS.	
18001	1/8"	0.19	0.19	0.01	----
18002	3/16"	0.22	0.27	0.01	----
18003	1/4"	0.25	0.34	0.01	----
18004	5/16"	0.25	0.41	0.01	----
18005	3/8"	0.25	0.47	0.02	----
18006	7/16"	0.31	0.53	0.02	----
18007	1/2"	0.38	0.59	0.02	----
18008	5/8"	0.38	0.71	0.03	----
18009	3/4"	0.44	0.87	0.03	----
18010	7/8"	0.41	0.99	0.03	----
18011	1"	0.55	1.16	0.03	----

60 260

### BRASS NUT



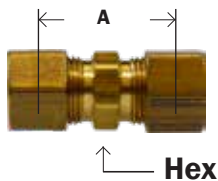
61

SAE# 060110

PART #	SIZE	THREAD	A	HEX	APPROX. WT. LBS.	
18033	1/8"	5/16-24	0.38	0.37	0.01	----
18034	3/16"	3/8-24	0.41	0.43	0.01	----
18035L	1/4"	7/16-24	0.44	0.50	0.02	
18035	1/4"	7/16-24	0.44	0.50	0.02	----
18036	5/16"	1/2-24	0.44	0.56	0.02	----
18037L	3/8"	9/16-24	0.47	0.62	0.04	
18037	3/8"	9/16-24	0.47	0.62	0.04	----
18038	7/16"	5/8-24	0.50	0.68	0.04	----
18039L	1/2"	11/16-20	0.56	0.75	0.04	
18039	1/2"	11/16-20	0.62	0.81	0.04	----
18040L	5/8"	13/16-18	0.56	0.87	0.06	
18040	5/8"	13/16-18	0.62	0.94	0.06	----
18041	3/4"	1-18	0.68	1.12	0.08	----
18042	7/8"	1-1/8 - 18	0.62	1.25	0.10	----
18043	1"		0.94	1.38	0.15	----

61 261

### UNION



62  
262

SAE# 060101BA

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
18062	1/8"	0.64	0.31	0.03	----
18063	3/16"	0.75	0.37	0.04	----
18064L	1/4"	0.79	0.43	0.06	----
18064	1/4"	0.81	0.43	0.06	----
18065	5/16"	0.88	0.50	0.06	----
18066L	3/8"	0.96	0.56	0.09	----
18066	3/8"	0.98	0.56	0.10	----
18067	7/16"	1.02	0.62	0.12	----
18068L	1/2"	1.06	0.68	0.16	----
18068	1/2"	1.25	0.68	0.16	----
18069L	5/8"	1.43	0.81	0.24	----
18069	5/8"	1.25	0.81	0.26	----
18070	3/4"	1.41	1.00	0.35	----
18071L	7/8"	1.03	1.12	0.34	----
18071	7/8"	1.00	1.12	0.36	----
18072	1"	1.78	1.38	0.58	----

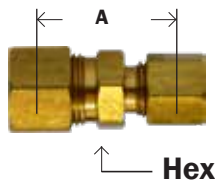
M-62

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**COMPRESSION**

## BRASS FITTINGS

**REDUCING UNION**

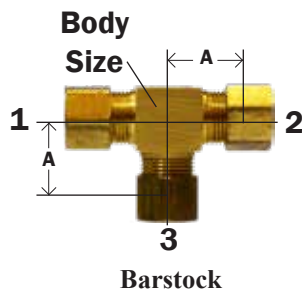
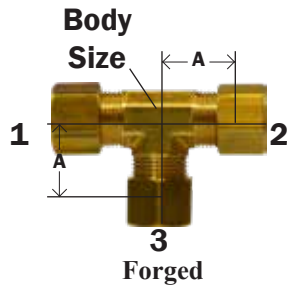
62R

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
18076	1/4" x 1/8"	0.73	0.44	0.04	----
18077	1/4" x 3/16"	0.78	0.44	0.06	----
18078	5/16" x 1/4"	0.81	0.50	0.06	----
18079	3/8" x 1/4"	0.90	0.56	0.10	----
18080	3/8" x 5/16"	0.94	0.56	0.10	----
18081	1/2" x 3/8"	1.03	0.68	0.12	----
18082	5/8" x 3/8"	1.03	0.81	0.15	----
18083	5/8" x 1/2"	1.16	0.81	0.18	----
18085	7/8" x 3/8"	1.18	1.18	0.26	----
18086	7/8" x 1/2"	1.21	1.18	0.24	----
18084	7/8" x 5/8"	1.23	1.18	0.20	----

62-R

**TEE**

SAE# 060401

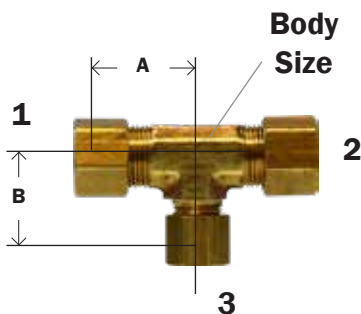


64

PART #	SIZE	A	BODY SIZE	APPROX. WT. LBS.	
18101	1/8"	0.61	0.37	0.04	----
18101B*	1/8"	0.62	0.33	0.04	----
18102	3/16"	0.59	0.36	0.08	----
18102B*	3/16"	0.60	0.38	0.08	----
18103	1/4"	0.63	0.36	0.10	----
18103B*	1/4"	0.62	0.49	0.10	----
18104	5/16"	0.72	0.50	0.13	----
18104B*	5/16"	0.60	0.50	0.14	----
18105	3/8"	0.75	0.50	0.16	----
18105B*	3/8"	0.73	0.59	0.16	----
18106	1/2"	0.94	0.59	0.22	----
18106B*	1/2"	0.94	0.69	0.24	----
18107	5/8"	1.06	0.69	0.28	----
18108	3/4"	1.22	0.88	0.32	----
18109	7/8"	1.25	0.94	0.34	----

\* Barstock

64 264C

**FORGED REDUCING TEE**

64R

PART #	SIZE 1 X 2 X 3	A	B	BODY SIZE	APPROX. WT. LBS.	
18114	1/4" x 1/4" x 1/8"	0.62	0.59	0.38	0.09	----
18110	1/4" x 1/4" x 3/8"	0.69	0.75	0.50	0.14	----
18111	3/8" x 1/4" x 1/4"	0.75	0.69	0.50	0.12	----
18115	3/8" x 3/8" x 1/4"	0.75	0.69	0.50	0.14	----
18116	1/2" x 1/2" x 1/4"	0.94	0.81	0.59	0.16	----
18117	1/2" x 1/2" x 3/8"	0.94	0.81	0.59	0.24	----
18118	5/8" x 5/8" x 3/8"	1.06	0.94	0.69	0.28	----
18119	5/8" x 5/8" x 1/2"	1.06	1.06	0.69	0.30	----

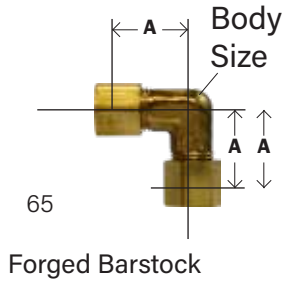
64-R

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPRESSION

## BRASS FITTINGS

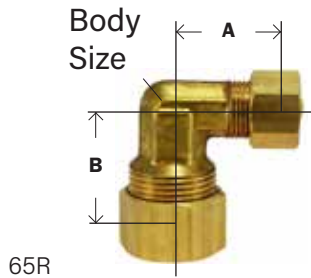
### UNION ELBOW SAE# 060201



PART #	SIZE	A	BODY SIZE	APPROX. WT. LBS.	
18122B*	1/8"	0.62	0.35	0.04	----
18123	3/16"	0.61	0.37	0.06	----
18124	1/4"	0.66	0.38	0.08	----
18125	5/16"	0.69	0.47	0.09	----
18126	3/8"	0.72	0.43	0.12	----
18127	1/2"	0.94	0.59	0.19	----
18128	5/8"	1.06	0.72	0.26	----
18129	3/4"	1.19	0.94	0.48	----
18130	7/8"	1.25	0.94	0.44	----

65 BSE2 165C 265C

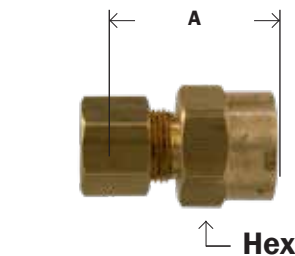
### REDUCING ELBOW - FORGED



PART #	SIZE	A	B	BODY SIZE	APPROX. WT. LBS.	
18135	3/8" x 1/4"	0.69	0.75	0.47	0.12	----
18136	1/2" x 3/8"	0.88	0.94	0.59	0.15	----
18137	5/8" x 3/8"	0.88	0.97	0.56	0.18	----

65-R

### FEMALE ADAPTER SAE# 060103



PART #	COMP. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
18142	1/8" x 1/8"	0.75	0.56	0.02	----
18143	3/16" x 1/8"	0.78	0.56	0.04	----
18144	3/16" x 1/4"	0.96	0.68	0.04	----
18145L	1/4" x 1/8"	0.84	0.50	0.05	
18145	1/4" x 1/8"	0.78	0.56	0.05	----
18146L	1/4" x 1/4"	0.88	0.62	0.09	
18146	1/4" x 1/4"	1.03	0.68	0.09	----
18148	1/4" x 1/2"	1.02	0.87	0.12	----
18149	5/16" x 1/8"	0.81	0.56	0.05	----
18150	5/16" x 1/4"	0.91	0.62	0.06	----
18152	3/8" x 1/8"	0.88	0.56	0.06	----
18153L	3/8" x 1/4"	0.97	0.62	0.08	
18153	3/8" x 1/4"	1.06	0.68	0.08	----
18154L	3/8" x 3/8"	1.03	0.75	0.08	
18154	3/8" x 3/8"	1.06	0.81	0.10	----
18155	3/8" x 1/2"	1.12	1.00	0.08	----
18156	3/8" x 3/4"	1.19	1.16	0.14	----
18157	1/2" x 1/4"	1.09	0.68	0.10	----
18158L	1/2" x 3/8"	0.94	0.81	0.12	
18158	1/2" x 3/8"	1.12	0.81	0.12	----
18159L	1/2" x 1/2"	1.19	1.00	0.12	
18159	1/2" x 1/2"	1.31	1.00	0.12	----
18160	1/2" x 3/4"	1.25	1.16	0.18	----
18162L	5/8" x 1/2"	1.20	0.94	0.18	
18162	5/8" x 1/2"	1.38	1.00	0.18	----
18163	5/8" x 3/4"	1.20	1.12	0.22	----
18164	3/4" x 1/2"	1.25	1.06	0.26	----
18165	3/4" x 3/4"	1.28	1.19	0.28	----
18167	7/8" x 1/2"	1.28	1.19	0.32	----
18166	7/8" x 3/4"	1.31	1.12	0.34	----

• More sizes available

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

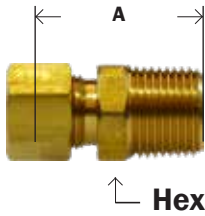
BRASS

**COMPRESSION**

## BRASS FITTINGS

## MALE ADAPTER

SAE# 060102



68

PART #	COMP. X MALE NPTF	A	HEX	APPROX. WT. LBS.	
18175	1/8" x 1/16"	0.78	0.37	0.02	----
18176	1/8" x 1/8"	0.78	0.43	0.04	----
18177	3/16" x 1/8"	0.84	0.43	0.04	----
18178	3/16" x 1/4"	0.94	0.56	0.06	----
18179L	1/4" x 1/8"	0.88	0.56	0.04	----
18179	1/4" x 1/8"	0.88	0.43	0.04	----
18180L	1/4" x 1/4"	0.94	0.56	0.05	----
18180	1/4" x 1/4"	1.06	0.56	0.06	----
18181	1/4" x 3/8"	1.03	0.68	0.08	----
18182	1/4" x 1/2"	1.09	0.81	0.10	----
18183	5/16" x 1/8"	0.91	0.50	0.05	----
18184L	5/16" x 1/4"	1.01	0.56	0.06	----
18184	5/16" x 1/4"	1.09	0.56	0.06	----
18185	5/16" x 3/8"	1.06	0.68	0.07	----
18186	5/16" x 1/2"	1.14	0.87	0.10	----
18187L	3/8" x 1/8"	0.94	0.56	0.06	----
18187	3/8" x 1/8"	0.97	0.56	0.06	----
18188L	3/8" x 1/4"	1.03	0.56	0.06	----
18188	3/8" x 1/4"	1.16	0.56	0.07	----
18189L	3/8" x 3/8"	1.09	0.68	0.08	----
18189	3/8" x 3/8"	1.14	0.69	0.08	----
18190L	3/8" x 1/2"	1.19	0.88	0.12	----
18190	3/8" x 1/2"	1.34	0.87	0.13	----
18191	3/8" x 3/4"	1.29	1.06	0.16	----
18192	7/16" x 1/4"	1.06	0.62	0.10	----
18204	7/16" x 3/8"	1.10	0.68	0.12	----
18193L	1/2" x 1/4"	1.09	0.69	0.11	----
18193	1/2" x 1/4"	1.22	0.68	0.11	----
18194L	1/2" x 3/8"	1.16	0.68	0.12	----
18194	1/2" x 3/8"	1.16	0.69	0.12	----
18195L	1/2" x 1/2"	1.09	0.81	0.12	----
18195	1/2" x 1/2"	1.41	0.87	0.19	----
18196	1/2" x 3/4"	1.38	1.06	0.22	----
18216	5/8" x 1/4"	1.21	0.87	0.22	----
18197	5/8" x 3/8"	1.22	0.87	0.24	----
18198	5/8" x 1/2"	1.12	0.81	0.24	----
18199	5/8" x 3/4"	1.31	1.06	0.26	----
18200	3/4" x 1/2"	1.44	1.00	0.26	----
18201	3/4" x 3/4"	1.50	1.06	0.26	----
18202	7/8" x 1/2"	1.18	1.12	0.26	----
18203	7/8" x 3/4"	1.22	1.12	0.28	----
18205	7/8" x 1"	1.67	1.37	0.32	----
18206	1" x 3/4"	1.95	1.37	0.44	----
18207	1" x 1"	2.00	1.38	0.48	----

68

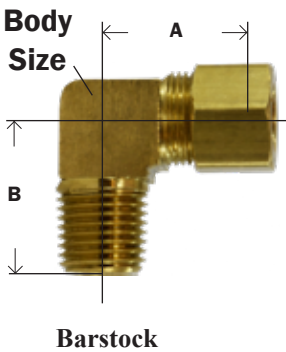
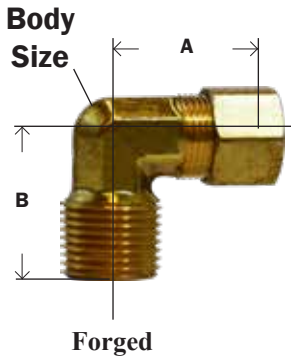
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPRESSION

## BRASS FITTINGS

### MALE ELBOW

SAE# 060202



69

PART #	COMP. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
18219	1/8" x 1/16"	0.59	0.73	0.34	0.02	----
18220	1/8" x 1/8"	0.59	0.75	0.34	0.02	----
18220B*	1/8" x 1/8"	0.60	0.67	0.43	0.04	----
18221	3/16" x 1/8"	0.63	0.72	0.34	0.04	----
18221B*	3/16" x 1/8"	0.62	0.69	0.43	0.06	----
18223	3/16" x 1/4"	0.60	0.81	0.39	0.05	----
18223B*	3/16" x 1/4"	0.65	0.85	0.41	0.08	----
18224	1/4" x 1/8"	0.60	0.75	0.37	0.06	----
18224B*	1/4" x 1/8"	0.62	0.75	0.43	0.06	----
18225	1/4" x 1/4"	0.65	0.94	0.36	0.08	----
18225B*	1/4" x 1/4"	0.61	0.81	0.56	0.08	----
18226	1/4" x 3/8"	0.75	0.91	0.47	0.08	----
18227	1/4" x 1/2"	0.81	1.13	0.56	0.12	----
18228	5/16" x 1/8"	0.66	0.75	0.47	0.06	----
18228B*	5/16" x 1/8"	0.62	0.75	0.42	0.06	----
18229	5/16" x 1/4"	0.66	0.81	0.47	0.07	----
18229B*	5/16" x 1/4"	0.69	0.84	0.57	0.08	----
18230	5/16" x 3/8"	0.75	0.91	0.47	0.10	----
18231	5/16" x 1/2"	0.84	1.12	0.56	0.12	----
18232	3/8" x 1/8"	0.72	0.66	0.39	0.06	----
18232B*	3/8" x 1/8"	0.69	0.69	0.57	0.06	----
18233	3/8" x 1/4"	0.75	0.82	0.46	0.08	----
18233B*	3/8" x 1/4"	0.75	0.94	0.57	0.08	----
18234	3/8" x 3/8"	0.81	0.94	0.46	0.10	----
18234B*	3/8" x 3/8"	0.71	0.83	0.69	0.10	----
18235	3/8" x 1/2"	0.87	1.12	0.56	0.14	----
18235B*	3/8" x 1/2"	0.88	1.16	0.94	0.14	----
18248	3/8" x 3/4"	1.03	1.19	0.81	0.18	----
18248B*	3/8" x 3/4"	1.03	1.20	0.86	0.16	----
18247	7/16" x 1/4"	0.84	1.00	0.56	0.14	----
18236	1/2" x 1/4"	0.88	0.97	0.56	0.14	----
18236B*	1/2" x 1/4"	0.85	0.94	0.07	0.17	----
18237	1/2" x 3/8"	0.88	1.03	0.56	0.19	----
18237B*	1/2" x 3/8"	0.94	1.12	0.70	0.19	----
18238	1/2" x 1/2"	0.94	1.13	0.59	0.17	----
18238B*	1/2" x 1/2"	0.94	1.31	0.86	0.17	----
18239	1/2" x 3/4"	1.16	1.25	0.81	0.18	----
18240	5/8" x 3/8"	1.06	1.12	0.68	0.18	----
18241	5/8" x 1/2"	1.06	1.16	0.68	0.20	----
18241B*	5/8" x 1/2"	1.06	1.31	0.86	0.20	----
18242	5/8" x 3/4"	1.16	1.31	0.81	0.24	----
18243	3/4" x 1/2"	1.19	1.31	0.94	0.26	----
18245	3/4" x 3/4"	1.19	1.38	0.94	0.30	----
18246	7/8" x 3/4"	1.25	1.38	0.94	0.35	----

\* Barstock

69 269C BSE1 169C

Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

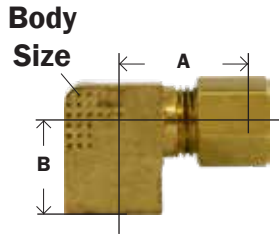
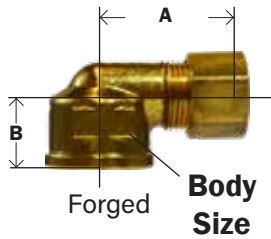


**COMPRESSION**

## BRASS FITTINGS

## FEMALE ELBOW

SAE# 060203



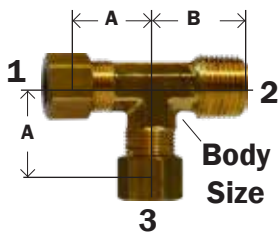
70

PART #	COMP. X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
18251	1/8" x 1/8"	0.69	0.56	0.56	0.04	----
18251B*	1/8" x 1/8"	0.69	0.60	0.57	0.06	----
18252	3/16" x 1/8"	0.69	0.47	0.56	0.04	----
18252B*	3/16" x 1/8"	0.60	0.60	0.58	0.07	----
18253	1/4" x 1/8"	0.69	0.47	0.56	0.06	----
18253B*	1/4" x 1/8"	0.69	0.56	0.56	0.06	----
18254	1/4" x 1/4"	0.75	0.50	0.72	0.08	----
18254B*	1/4" x 1/4"	0.72	0.85	0.68	0.13	----
18267	1/4" x 3/8"	0.81	0.58	0.81	0.08	----
18268	1/4" x 1/2"	0.89	0.66	1.00	0.10	----
18255	5/16" x 1/8"	0.72	0.84	0.47	0.08	----
18256	5/16" x 1/4"	0.78	0.50	0.72	0.09	----
18257	3/8" x 1/8"	0.75	0.84	0.47	0.10	----
18258	3/8" x 1/4"	0.84	0.59	0.75	0.10	----
18259	3/8" x 3/8"	0.88	0.58	0.81	0.12	----
18260	3/8" x 1/2"	0.97	0.66	1.00	0.14	----
18250	3/8" x 3/4"	1.09	0.72	1.25	0.18	----
18261	1/2" x 1/4"	1.06	0.70	0.88	0.18	----
18262	1/2" x 3/8"	1.00	0.70	0.88	0.16	----
18263	1/2" x 1/2"	1.03	0.72	1.00	0.20	----
18270	1/2" x 3/4"	1.16	0.72	1.25	0.23	----
18269	5/8" x 3/8"	1.09	0.77	1.00	0.20	----
18264	5/8" x 1/2"	1.09	0.77	1.00	0.22	----
18265	5/8" x 3/4"	1.22	0.77	1.25	0.24	----
18266	3/4" x 1/2"	1.25	1.25	0.94	0.28	----

\* Barstock

70 270C BSE3 170C

## FORGED MALE RUN TEE



71

PART #	COMP. X MALE NPTF (1&3) X 2	A	B	BODY SIZE	APPROX. WT. LBS.	
18272	1/8" x 1/8"	0.63	0.69	0.36	0.06	----
18273	3/16" x 1/8"	0.63	0.69	0.36	0.07	----
18273B*	3/16" x 1/8"	0.63	0.69	0.36	0.06	----
18274B*	1/4" x 1/8"	0.63	0.75	0.36	0.07	----
18274	1/4" x 1/8"	0.63	0.75	0.36	0.08	----
18275	1/4" x 1/4"	0.69	0.88	0.44	0.10	----
18276	5/16" x 1/8"	0.72	0.75	0.50	0.10	----
18277	5/16" x 1/4"	0.75	0.88	0.44	0.10	----
18278	3/8" x 1/8"	0.75	0.75	0.50	0.14	----
18279	3/8" x 1/4"	0.79	0.87	0.44	0.18	----
18280	3/8" x 3/8"	0.88	1.00	0.47	0.20	----
18281	1/2" x 3/8"	0.94	1.09	0.59	0.24	----
18282	1/2" x 1/2"	0.97	1.19	0.69	0.26	----
18283	5/8" x 1/2"	1.06	1.31	0.69	0.28	----
18284	3/4" x 1/2"	1.22	1.34	0.88	0.30	----

\* Barstock

71 171C BST3

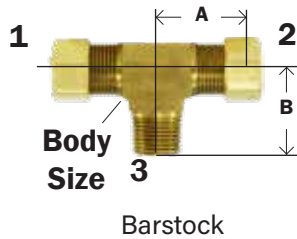
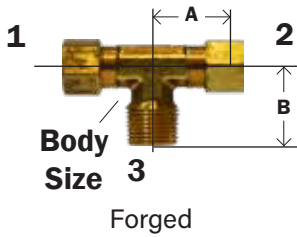
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPRESSION

## BRASS FITTINGS

### MALE BRANCH TEE

SAE# 060425



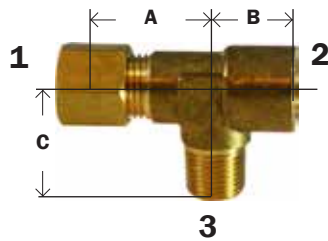
72

PART #	COMP. X MALE NPTF (1&2) X 3	A	B	BODY SIZE	APPROX. WT. LBS.	
18290	3/16" x 1/8"	0.63	0.69	0.36	0.08	----
18291	1/4" x 1/8"	0.62	0.75	0.36	0.10	----
18291B*	1/4" x 1/8"	0.64	0.73	0.45	0.10	----
18292	1/4" x 1/4"	0.69	0.86	0.44	0.10	----
18293	5/16" x 1/8"	0.72	0.75	0.50	0.11	----
18294	5/16" x 1/4"	0.75	0.88	0.44	0.12	----
18295	3/8" x 1/8"	0.75	0.75	0.50	0.14	----
18296	3/8" x 1/4"	0.78	0.88	0.44	0.16	----
18297	3/8" x 3/8"	0.78	0.97	0.47	0.18	----
18298	3/8" x 1/2"	0.88	1.22	0.69	0.20	----
18304	1/2" x 1/4"	0.94	0.97	0.59	0.22	----
18299B*	1/2" x 3/8"	0.96	1.09	0.70	0.24	----
18299	1/2" x 3/8"	0.94	1.12	0.59	0.24	----
18300	1/2" x 1/2"	0.97	1.19	0.69	0.30	----
18301	5/8" x 1/2"	1.06	1.31	0.69	0.32	----
18302	3/4" x 1/2"	1.22	1.34	0.88	0.50	----
18303	3/4" x 3/4"	1.25	1.50	0.88	0.54	----

\* Barstock

72 BST1 172C

### FORGED TEE

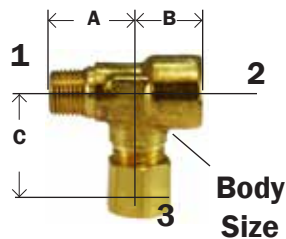


75

PART #	COMP. X FEMALE NPTF X MALE NPTF 1X(2&3)	A	B	C	APPROX. WT. LBS.	
18307	1/4" x 1/8"	0.72	0.53	0.72	0.20	----

BST3

### ADAPTER TEE



76

PART #	MALE NPTF X FEMALE NPTF X COMP. (1&2)X3	A	B	C	BODY SIZE	APPROX. WT. LBS.	
18314	1/8" x 1/4"	0.72	0.53	0.72	0.47	0.08	----
18316	3/8" x 1/4"	0.84	0.97	0.81	0.47	0.10	----

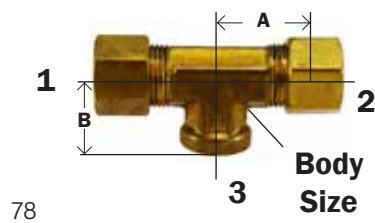
76 176C

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**COMPRESSION**

## BRASS FITTINGS

**FEMALE BRANCH FORGED TEE**

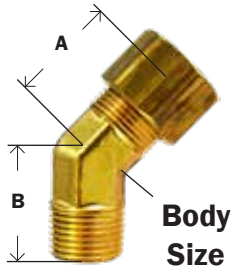
78

PART #	COMP. X FEMALE NPTF (1&2)X3	A	B	BODY SIZE	APPROX. WT. LBS.	
18321	1/4" x 1/8"	0.78	0.75	0.45	0.10	----
18328	1/4" x 1/4"	0.78	0.75	0.44	0.12	----
18325	3/8" x 1/8"	0.75	0.63	0.50	0.12	----
18322	3/8" x 1/4"	0.81	0.97	0.47	0.14	----
18323	3/8" x 3/8"	0.97	0.69	1.05	0.16	----
18326	1/2" x 1/8"	0.94	0.75	0.59	0.20	----
18324	1/2" x 3/8"	1.00	0.72	0.88	0.22	----
18327	5/8" x 1/8"	1.06	0.81	0.69	0.26	----

78 BST4 77 177C 2908

**45° ELBOW**

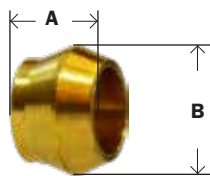
SAE# 060302



6945

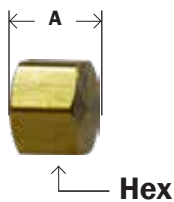
PART #	COMP. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
18329	3/16" x 1/8"	0.40	0.63	0.41	0.04	----
18330	1/4" x 1/8"	0.40	0.61	0.41	0.04	----
18336	1/4" x 1/4"	0.59	0.84	0.53	0.06	----
18331	5/16" x 1/8"	0.59	0.65	0.53	0.06	----
18332	5/16" x 1/4"	0.59	0.83	0.53	0.08	----
18333	3/8" x 1/4"	0.62	0.83	0.53	0.08	----
18338	3/8" x 3/8"	0.75	0.95	0.59	0.10	----
18334	1/2" x 3/8"	0.75	0.88	0.59	0.14	----
18339	1/2" x 1/2"	0.94	1.14	0.75	0.14	----
18335	5/8" x 1/2"	0.78	1.14	0.78	0.14	----

6945 45BSE1 74 179C 273 77

**COMPRESSION PLUG**60CP  
60CSP

PART #	SIZE	A	B	APPROX. WT. LBS.	
18028	1/4"	0.30	0.34	0.01	----
18029	3/8"	0.31	0.47	0.04	----
18032	5/16"	0.40	0.40	0.01	----
18030	1/2"	0.34	0.59	0.06	----
18031	5/8"	0.45	0.72	0.04	----

CSP

**CAP**61CC  
61CX

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
18047	1/4"	0.44	0.50	0.02	----
18048	3/8"	0.40	0.62	0.04	----
18049	1/2"	0.48	0.75	0.06	----
18050	5/8"	0.56	0.94	0.10	----

61-CC N5CT

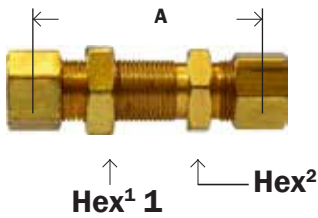
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPRESSION

## BRASS FITTINGS

### BULKHEAD UNIONS

SAE# 060101

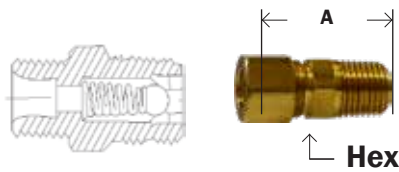


62BH

PART #	SIZE	A	HEX 1	HEX 2	APPROX. WT. LBS.	
18088	1/4"	1.58	0.56	0.56	0.10	----
18090	3/8"	1.76	0.68	0.68	0.14	----
18093	5/8"	2.01	1.000	0.94	0.32	----

62BH 75 274

### BALL CHECK VALVE - MIN. WORKING PRESSURE 3 PSI.

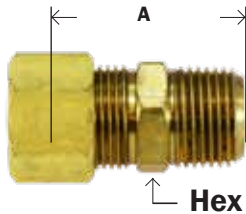


63

PART #	TUBE OD X MALE NPTF	A	HEX	APPROX. WT. LBS.	
18092	1/8" x 1/8"	0.78	0.44	0.04	----
18094	1/4" x 1/8"	0.88	0.44	0.04	----
18096	3/8" x 1/4"	1.16	0.56	0.08	----

63 263 63A

### TANK ADAPTER DRILLED THRU (NO STOP)



68T

PART #	COMP. X MALE NPTF	A	HEX	APPROX. WT. LBS.	
18208	1/4" x 1/8"	0.88	0.43	0.04	----
18209	1/4" x 1/4"	0.99	0.56	0.05	----
18210	3/8" x 1/4"	1.16	0.56	0.05	----
18211	3/8" x 3/8"	1.09	0.68	0.08	----
18212	3/8" x 1/2"	1.19	0.87	0.10	----
18213	1/2" x 3/8"	1.22	0.68	0.12	----
18214	1/2" x 1/2"	1.09	0.81	0.14	----
18215	5/8" x 1/2"	1.12	0.81	0.18	----

68-T 682C 80F

Middle age is when your broad mind and narrow waist begin to change places.

- E. Joseph Cossman

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**DOUBLE COMPRESSION**

## BRASS FITTINGS

**DOUBLE COMPRESSION THREADED SLEEVE FITTINGS**

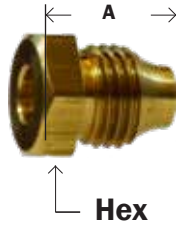
▪ Use with aluminum and copper tubing or plastic tubing with internal tube support. Not recommended for steel tubing.

▪ Easy to assemble, no flaring, two piece construction.

▪ For use on oil, air, water and grease lubrication systems.

▪ When design makes a dimension critical, contact us for information.

Tube OD	1/8	3/16	1/4	5/16	3/8
Thread	5/16-24	3/8-24	7/16-24	1/2-20	9/16-20
Working Pressure	500	500	500	250	250

**NUT**

181

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
16001	1/8"	0.50	0.37	0.02	----
16002	3/16"	0.53	0.43	0.02	----
16003	1/4"	0.56	0.50	0.04	----
16004	5/16"	0.61	0.56	0.04	----
16005	3/8"	0.61	0.62	0.04	----
16006	1/2"	0.90	0.69	0.05	----
16007	5/8"	1.07	0.88	0.06	----

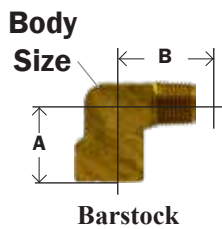
181 6100 11

**MALE ADAPTER**188  
26200

PART #	THRD SLEEVE X MALE NPTF	A	HEX	APPROX. WT. LBS.	
16117	1/8" x *	0.62	0.43	0.02	----
16118	1/8" x 1/8"	0.62	0.43	0.02	----
16119	3/16" x 1/8"	0.69	0.43	0.02	----
16121	1/4" x 1/8"	0.75	0.50	0.04	----
16120	1/4" x 1/4"	1.06	0.56	0.05	----
16122	5/16" x 1/8"	0.89	0.56	0.04	----
16125	5/16" x 1/4"	1.09	0.56	0.05	----
16123	3/8" x 1/4"	0.84	0.62	0.06	----

\* 1/4 - 28 Male Thread Tapered.

188 6200 12

**90° ELBOW**189  
26400

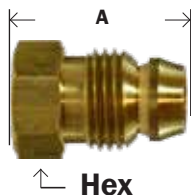
PART #	THRD SLEEVE X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
16127	1/8" x *	0.50	0.52	0.41	0.02	----
16128	1/8" x 1/8"	0.50	0.66	0.43	0.02	----
16129	3/16" x 1/8"	0.56	0.62	0.44	0.02	----
16130	1/4" x 1/8"	0.52	0.62	0.50	0.04	----
16131	5/16" x 1/8"	0.75	0.81	0.56	0.09	----
16133	3/8" x 1/4"	0.88	1.00	0.56	0.13	----

\* 1/4 - 28 Male Thread Tapered

189 6400 15

**BREAK-AWAY NUT**

▪ 1-Piece Fiting

181SP  
21604

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
16009	1/8"	0.66	0.31	0.02	----
16090	3/16"	0.57	0.37	0.02	----
16010	1/4"	0.62	0.43	0.02	----
16011	5/16"	0.77	0.50	0.04	----
16012	3/8"	0.84	0.56	0.04	----

181-BA 21604 99LB 81LB

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# SPLIT SLEEVE FITTINGS

## BRASS FITTINGS

### BRASS SPLIT SLEEVE D.O.T. FITTINGS (5/32 O.D.)

#### TRANSMISSION BRASS FITTINGS

APPLICATIONS: Used with SAE J844 Type A nylon tube in pressure protected air transmission applications.  
 TECHNICAL DATA: Maximum working pressure up to 150 PSI. Fittings will withstand variations from -40°F to +220°F (-40°C to + 104°C)

Ideally suited for use in passive protected air transmission applications. A specially designed slotted sleeve helps eliminate notch stress related to over torque. **25 prefix parts do not have a stake, use 38 part # with white sealant only.**

#### COLLET



PART #	TUBE O.D.	
38711	5/32"	----
25001	1/8"	----
25002	3/16"	----
25003	1/4"	----

1460 90791 280 90946

#### NUT



PART #	TUBE O.D.	
38732	5/32"	----
25033	1/8"	----

1461 90790 281 90885

#### DOUBLE END UNION



PART #	TUBE O.D.	
38761	5/32"	----
25062	1/8"	----
25064	1/4"	----

1462 90792 283 90891

#### CONNECTOR WITH NUT AND SLEEVE



PART #	TUBE O.D.	PIPE THREAD	
38769	5/32"	1/16"	----
38770	5/32"	1/8"	----
25175	1/8"	1/16"	----
25176	1/8"	1/8"	----
25177	3/16"	1/8"	----
25179	1/4"	1/8"	----

• Shipped with nut and split sleeve, picture shows insert 1468 90794 282 90985

#### ELBOW



PART #	TUBE O.D.	PIPE THREAD	
38715	5/32"	1/16"	----
38718	5/32"	1/8"	----
25220	1/8"	1/8"	----
25219	1/8"	1/16"	----
25221	3/16"	1/8"	----
25224	1/4"	1/8"	----

284

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

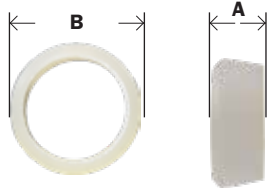
# SPECIAL COMPRESSION ASSEMBLIES

## BRASS FITTINGS

To purchase special compression assemblies, delete the 18 prefix on part# and add the prefix of the type of special assembly you desire. Pricing and availability upon request.

- 22 - Plastic sleeve (inserts should be ordered separately)
- 24 - Long nut compression
- 26 - Captive sleeve (parts listed on following pages)
- 27 - Self align sleeve

### DELRIN SLEEVE



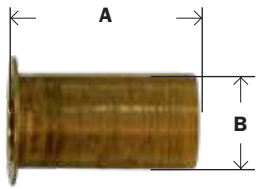
60P

PART #	SIZE	A	B	APPROX. WT. LBS.	
18015	1/4"	0.19	0.37	0.01	----
18016	5/16"	0.19	0.43	0.01	----
18017	3/8"	0.19	0.50	0.02	----
18018	1/2"	0.25	0.63	0.02	----
18019	5/8"	0.22	0.74	0.02	----

60-P

### BRASS INSERT

• SLEEVE



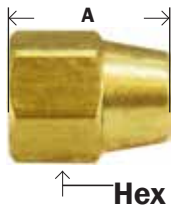
61P

63P

PART #	SIZE	A	B	APPROX. WT. LBS.	WALL	
22008	1/8"	0.46	0.080	0.01	.016	----
22008A	1/8"	0.465	0.073	0.01	.023	----
22009	3/16"	0.45	0.135	0.01	.025	----
22009A	3/16"	0.52	0.095	0.01	.040	
22010	1/4"	0.50	0.163	0.02	.04	----
22010A	1/4"	0.59	0.125	0.02	.04	
22010B	1/4"	0.53	0.172	0.02	.03	
22011A	5/16"	0.50	0.232	0.02	.04	
22011	5/16"	0.53	0.187	0.02	.062	----
22012	3/8"	0.56	0.250	0.03	.062	----
22013	1/2"	0.72	0.370	0.03	.062	----
22014	5/8"	0.72	0.483	0.03	.062	----
22015	3/4"	1.03	0.563	0.03	.03	----

63-BI 60AE 2030 63PT

### LONG NUT COMPRESSION - CAN BE ASSEMBLED ON ANY COMPRESSION FITTING



161

PART #	SIZE	A	HEX	APPROX. WT. LBS.	
10013	1/8"	0.50	0.37	0.01	----
24002	3/16"	0.62	0.43	0.01	----
24003	1/4"	0.75	0.50	0.02	----
24004	5/16"	0.84	0.56	0.02	----
24005	3/8"	0.97	0.62	0.04	----
24006	1/2"	1.06	0.81	0.06	----
24007	5/8"	1.19	0.94	0.11	----
24008	3/4"	1.50	1.25	0.14	----

161

### SELF-ALIGN SLEEVES



PART #	SIZE	
27001	1/8"	----
27002	3/16"	----
27003	1/4"	----

860 601



PART #	SIZE	
27005	3/8"	----
27006	1/2"	----

860

• More sizes available

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# CAPTIVE SLEEVE COMPRESSION

## BRASS FITTINGS

### CAPTIVE SLEEVE NUT

61SA  
61CS



PART #	SIZE	
26001	1/8"	----
26002	3/16"	----
26003	1/4"	----
26004	5/16"	----
26005	3/8"	----
26007	1/2"	----
26008	5/8"	----

CS61 61CA

62SA

### UNION



PART #	SIZE	
26062	1/8"	----
26063	3/16"	----
26064	1/4"	----
26065	5/16"	----
26066	3/8"	----
26079	3/8" x 1/4"	----
26068	1/2"	----

CS62 62CA

64SA

### TEE



PART #	SIZE	
26102	3/16"	----
26103	1/4"	----
26105	3/8"	----

CS64 164CA

### FEMALE ADAPTER

66SA



PART #	COMP. X FEMALE NPTF	
26142	1/8" x 1/8"	----
26145	1/4" x 1/8"	----
26146	1/4" x 1/4"	----
26153	3/8" x 1/4"	----

CS66 66CA

### MALE ADAPTER

68SA



PART #	COMP. X MALE NPTF	
26175	1/8" x 1/16"	----
26176	1/8" x 1/8"	----
26177	3/16" x 1/8"	----
26178	3/16" x 1/4"	----
26179	1/4" x 1/8"	----
26180	1/4" x 1/4"	----
26180L	1/4" x 1/4"	----
26181	1/4" x 3/8"	----
26182	1/4" x 1/2"	----
26183	5/16" x 1/8"	----
26184	5/16" x 1/4"	----
26188	3/8" x 1/4"	----
26189	3/8" x 3/8"	----
26190	3/8" x 1/2"	----
26193	1/2" x 1/4"	----
26194	1/2" x 3/8"	----
26195	1/2" x 1/2"	----
26198	5/8" x 1/2"	----

CS68 68CA

### MALE ELBOW



69SA

PART #	COMP. X MALE NPTF	
26220	1/8" x 1/8"	----
26220B	1/8" x 1/8"	----
26221B	3/16" x 1/8"	----
26221	3/16" x 1/8"	----
26224B	1/4" x 1/8"	----
26224	1/4" x 1/8"	----
26223	3/16" x 1/4"	----
26225	1/4" x 1/4"	----
26225B	1/4" x 1/4"	----
26226	1/4" x 3/8"	----
26228	5/16" x 1/8"	----
26229	5/16" x 1/4"	----
26232	3/8" x 1/8"	----
26233	3/8" x 1/4"	----
26233B	3/8" x 1/4"	----
26234	3/8" x 3/8"	----
26235	3/8" x 1/2"	----
26237	1/2" x 3/8"	----
26238	1/2" x 1/2"	----

CS69 169CA

### MALE BRANCH TEE

72SA



PART #	COMP. X MALE NPTF (1&2) X 3	
26291	1/4" x 1/8"	----
26292	1/4" x 1/4"	----
26293	5/16" x 1/8"	----
26296	3/8" x 1/4"	----

CS72 172CA

### CAPTIVE SLEEVE X MALE PIPE ANGLE NEEDLE VALVE



PART #	COMP X MALE PIPE	
26011	1/4" x 1/8"	----
26014	5/16" x 1/4"	----

### CAPTIVE SLEEVE X CAPTIVE SLEEVE NEEDLE VALVE



PART #	COMP X COMP	
26021	1/4"	----
26023	3/8"	----

Interchangeable with compress-align fittings.

These are NOT Lead Free Lead Free products available upon request

- More sizes available
- Lead Free - add LF to part #

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## FLARELESS BRASS FITTINGS

# FLARELESS FITTINGS

Flareless Brass Tube Fittings are Interchangeable with Poly-Flo®, Poly-Tite® and Poly-Line® and Poly-Fit®



Built-in SS  
Tube Support

Tube O.D.	1/8	3/16	1/4	5/16	3/8	1/2
Thread Size-B	5/16-24	3/8-24	3/8-24	7/16-24	1/2-24	11/16-20

### •Typical Application

Pneumatic instrumentation circuits, lubricant and cooling lines.

### •Working Pressure and Temperature Ranges

Up to 150 PSI from 0°F to + 150°F with thermoplastic tubing. Up to 300 PSI from 0°F to + 175°F with soft metal tubing.

### •Maximum allowable metal tube wall thickness for use with Poly-Tite fittings:

1/8", 3/16" O.D. --no limitation,  
1/4" O.D.--.035 5/16", 3/8", 1/2" O.D.--.049

### •Vibration

Excellent Resistance.

### •Temperature Range

Depends on tubing used. -65°F to +250°F (-53°C to +121°C) with brass sleeve, -40°F to +150°F (-40°C to +66°C) with plastic sleeve. (Refer to tubing temperature range.)

### •Used With

Aluminum & copper tubing. Hard plastic tubing requires brass sleeve. Not recommended for steel tubing.

### • Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimen-

sions are critical.

### •Advantages

No flaring of tubing required. Easy installation, captive sleeve, pre-assembled for installation and can be reassembled. Nuts rotate around the sleeve during tightening, preventing twisting of tubing.

### •Assembly Instructions

- 1- Cut tubing to desired length.
- 2- Slide nut/sleeve assembly on tube. Threaded end "A" of nut must face toward fitting.
- 3- Bottom tubing into fitting.
- 4- Plastic sleeve - Tighten nut hand tight.  
Brass Sleeve - Tighten nut hand tight, then an additional 3/4 turn.

\* Note: 1/8 and 3/16 sizes have brass sleeves

# FLARELESS BRASS FITTINGS

## NUT AND PLASTIC SLEEVE ASSEMBLY

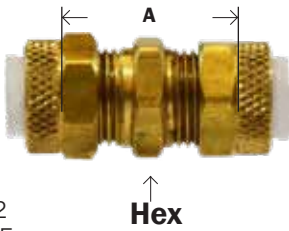


MP61P  
261PF

PART #	TUBE O.D.	THREAD	A	HEX (DIA.)	APPROX. WT. LBS.	
20211	1/4"	3/8-24	0.34	0.43	0.02	----
20212	5/16"	7/16-24	0.45	0.50	0.02	----
20213	3/8"	1/2-24	0.38	0.56	0.04	----
20214	1/2"	1 1/16-20	0.42	0.81	0.04	----

261PF 1261 61PN

## UNION

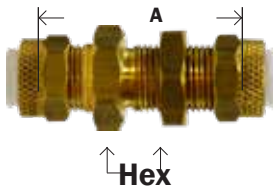


MP62  
262PF

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
20240	1/8"	0.66	0.31	0.02	----
20241	3/16"	0.75	0.37	0.04	----
20242	1/4"	0.69	0.37	0.04	----
20243	5/16"	0.69	0.44	0.04	----
20244	3/8"	0.72	0.50	0.10	----
20200	3/8" x 1/4"	0.72	0.50	0.08	----
20245	1/2"	0.84	0.69	0.14	----

262PF 1262 62P 262P

## BULKHEAD UNION

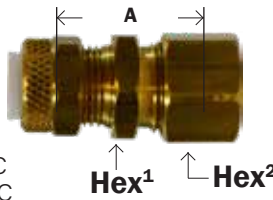


MP82  
282PF

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
20337	1/4"	1.25	0.56	0.06	----
20338	5/16"	1.25	0.62	0.08	----
20339	3/8"	1.31	0.69	0.10	----

62PBH 329P 282P

## UNION TUBE #M62C - FLARELESS X STANDARD COMPRESSION

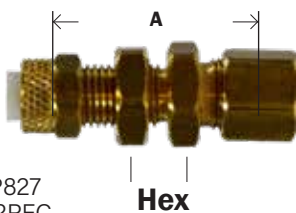


MP62C  
262PFC

PART #	TUBE O.D.	A	HEX 1	HEX 2	APPROX. WT. LBS.	
20235	1/4"	0.75	0.44	0.50	0.04	----
20237	3/8"	0.84	0.62	0.62	0.08	----

262S 62PCA 262PC

## BULKHEAD UNION - FLARELESS X COMPRESSION



MP827  
282PFC

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
20333	1/4"	1.31	0.56	0.07	----
20334	3/8"	1.44	0.69	0.12	----

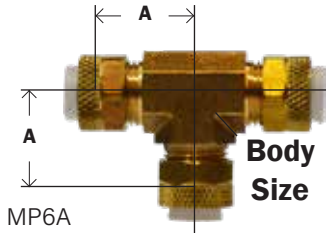
1274

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**FLARELESS**

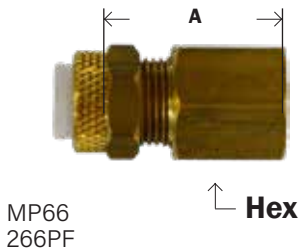
## BRASS FITTINGS

**UNION TEE**

PART #	TUBE O.D.	A	BODY SIZE	APPROX. WT. LBS.	
20248	1/8"	0.62	0.31	0.02	----
20249	3/16"	0.62	0.31	0.04	----
20250	1/4"	0.73	0.44	0.06	----
20251	5/16"	0.62	0.37	0.08	----
20252	3/8"	0.86	0.56	0.08	----
20330*	3/8" x 1/4"	0.72	0.44	0.08	----
20253	1/2"	0.81	0.62	0.24	----

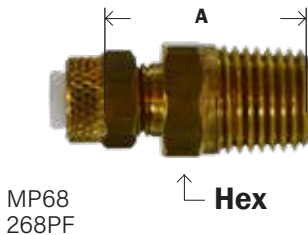
\* Reducing Branch

1264 164P 264P

**FEMALE CONNECTOR**

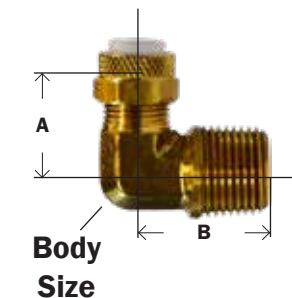
PART #	TUBE O.D. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
20256	1/8" x 1/8"	0.75	0.56	0.03	----
20257	3/16" x 1/8"	0.78	0.56	0.05	----
20259	1/4" x 1/8"	0.76	0.50	0.04	----
20260	1/4" x 1/4"	1.08	0.62	0.05	----
20261	5/16" x 1/8"	0.75	0.50	0.03	----
20265	3/8" x 1/8"	0.77	0.56	0.05	----
20262	3/8" x 1/4"	0.94	0.62	0.05	----
20263	1/2" x 3/8"	1.00	0.81	0.12	----

1266 66P 266P

**MALE CONNECTOR**

PART #	TUBE O.D. X MALE NPTF	A	HEX	APPROX. WT. LBS.	
20268	1/8" x 1/8"	0.80	0.34	0.04	----
20269	3/16" x 1/8"	0.86	0.44	0.04	----
20270	1/4" x 10/32"				
20271	1/4" x 1/8"	0.82	0.44	0.03	----
20272	1/4" x 1/4"	1.00	0.56	0.05	----
20273	1/4" x 3/8"	1.03	0.69	0.08	----
20274	5/16" x 1/8"	0.81	0.44	0.04	----
20275	5/16" x 1/4"	1.00	0.56	0.05	----
20276	3/8" x 1/8"	1.00	0.56	0.06	----
20277	3/8" x 1/4"	1.03	0.56	0.08	----
20278	3/8" x 3/8"	1.03	0.69	0.10	----
20279	1/2" x 3/8"	1.09	0.69	0.16	----
20282	1/2" x 1/2"	1.33	0.88	0.18	----

1268 68P 268P

**MALE ELBOW**

PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20287	1/8" x 1/8"	0.62	0.69	0.31	0.02	----
20288	3/16" x 1/8"	0.62	0.69	0.37	0.04	----
20289*	1/4" x 1/8"	0.53	0.73	0.50	0.04	----
20290	1/4" x 1/4"	0.66	0.94	0.37	0.06	----
20291	1/4" x 3/8"	0.75	1.03	0.50	0.10	----
20292	5/16" x 1/8"	0.62	0.75	0.41	0.04	----
20293	3/8" x 1/8"	0.79	0.73	0.37	0.08	----
20294	3/8" x 1/4"	0.72	0.94	0.44	0.10	----
20295	3/8" x 3/8"	0.78	1.03	0.50	0.14	----
20296	1/2" x 3/8"	1.09	1.10	0.73	0.16	----

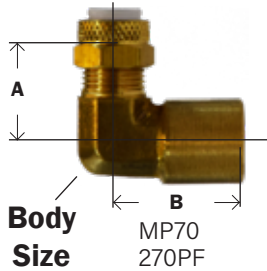
\* Barstock

1269 169P 269P

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FLARELESS BRASS FITTINGS

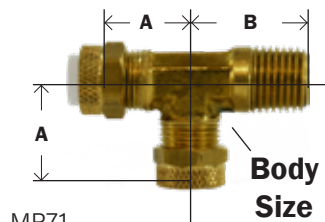
## FEMALE ELBOW



PART #	TUBE O.D. X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20300	1/8" x 1/8"	0.69	0.55	0.56	0.02	----
20301	3/16" x 1/8"	0.72	0.55	0.56	0.02	----
20302	1/4" x 1/8"	0.62	0.75	0.37	0.08	----
20303	1/4" x 1/4"	0.72	0.88	0.50	0.10	----
20304	3/8" x 1/4"	0.72	0.88	0.50	0.12	----
20305	1/2" x 3/8"	0.91	0.94	0.63	0.16	----

1270 170P

## MALE RUN TEE

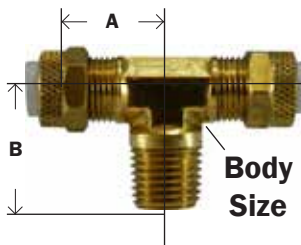


MP71  
271PF

PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20308	1/8" x 1/8"	0.62	0.69	0.31	0.04	----
20309	3/16" x 1/8"	0.62	0.69	0.31	0.04	----
20310	1/4" x 1/8"	0.62	0.75	0.37	0.08	----
20311	1/4" x 1/4"	0.66	0.94	0.37	0.10	----
20312	5/16" x 1/8"	0.62	0.75	0.37	0.08	----
20313	3/8" x 1/4"	0.66	0.94	0.44	0.10	----
20314	1/2" x 3/8"	0.81	1.06	0.63	0.16	----

1271 171P

## MALE BRANCH TEE

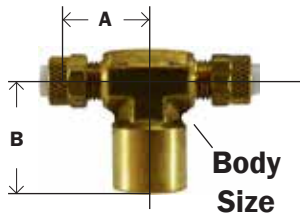


MP72  
272PF

PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20317	1/8" x 1/8"	0.63	0.69	0.31	0.04	----
20318	3/16" x 1/8"	0.63	0.69	0.31	0.04	----
20319	1/4" x 1/8"	0.63	0.75	0.37	0.07	----
20320	1/4" x 1/4"	0.66	0.94	0.37	0.09	----
20321	5/16" x 1/8"	0.63	0.75	0.37	0.10	----
20322	3/8" x 1/8"	0.63	0.75	0.44	0.08	----
20323	3/8" x 1/4"	0.66	0.94	0.44	0.11	----
20324	1/2" x 3/8"	0.81	1.06	0.63	0.21	----

1272 172P 272P

## FEMALE BRANCH TEE



MP77  
277PF

PART #	TUBE O.D. X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20327	1/4" x 1/8"	0.66	0.94	0.37	0.12	----
20328	1/4" x 1/4"	0.84	1.16	0.56	0.16	----

1277 177P 277P

Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**FLARELESS**

## BRASS FITTINGS

## UNIVERSAL NUT AND BRASS SLEEVE ASSEMBLY

MP61B  
261PFB

PART #	TUBE O.D.	THREAD	A	HEX	APPROX. WT. LBS.	
20227	1/8"	5/16-24	0.37	0.37	0.02	----
20228	3/16"	3/8-24	0.41	0.44	0.02	----
20229	1/4"	3/8-24	0.34	0.43	0.02	----
20230	5/16"	7/16-24	0.34	0.50	0.02	----
20231	3/8"	1/2-24	0.37	0.56	0.04	----
20232	1/2"	11/16-20	0.42	0.81	0.04	----

261PFB 1261B 61PB 261UB

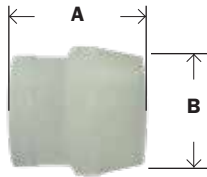
## NUT

MP61  
261PFN

PART #	TUBE O.D.	THREAD	A	HEX (DIA.)	APPROX. WT. LBS.	
20218	1/8"	5/16-24	0.37	0.37	0.01	----
20219	3/16"	3/8-24	0.41	0.44	0.01	----
20220	1/4"	3/8-24	0.34	0.44	0.02	----
20221	5/16"	7/16-24	0.34	0.50	0.02	----
20222	3/8"	1/2-24	0.38	0.56	0.04	----
20223	1/2"	11/16-20	0.42	0.81	0.06	----

61PN 1261 261FPN

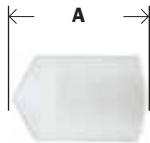
## PLASTIC SLEEVE

MP60  
260PF

PART #	TUBE O.D.	A	B	APPROX. WT. LBS.	
20205	1/4"	0.34	0.26	0.01	----
20206	5/16"	0.39	0.32	0.01	----
20207	3/8"	0.41	0.38	0.01	----
20208	1/2"	0.44	0.51	0.01	----

260FF 1260 60P 260P

## PLASTIC CAP

MP59  
269PF

PART #	TUBE O.D.	A	APPROX. WT. LBS.	
20201	1/4"	0.50	0.01	----
20203	3/8"	0.56	0.01	----
20204	1/2"	0.59	0.01	----

1229 59P 259P

Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRASS PUSH-IN FITTINGS

BRASS FITTINGS

## PUSH-IN/ PUSH-TO-CONNECT FITTINGS

BRASS PUSH-IN



NICKEL PLATED BRASS PUSH-IN



BALL VALVES FOR N/P PUSH-IN



METRIC N/P BRASS PUSH-IN



COMPOSITE BODY PUSH-IN



COMPOSITE BODY METRIC PUSH-IN



FDA PLASTIC PUSH-IN



DOT BRASS PUSH-IN



DOT COMPOSITE PUSH-IN



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# BRASS PUSH-IN FITTINGS

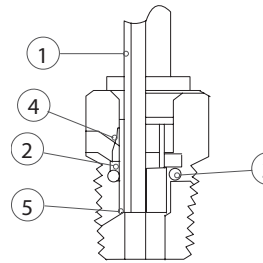
BRASS FITTINGS

## BRASS PUSH-IN FITTINGS



### ENGINEERING AND DESIGN

- **QUICK CONNECT**, simply push tubing in, no tools. Saves up to 75% of assembly time of standard compression fittings.
- **QUICK DISCONNECT**, hold two fingers on insert and pull tubing out, no tools required.
- **REUSEABLE**, connect and disconnect numerous times.
- **FULL FLOW DESIGN**, provides up to 60% more flow area than conventional fittings with internal tube supports.
- **POSITIVE SEAL**, no leaks. After tubing is inserted, seal is made.
- **VERSATILE**, BunaN "O" rings standard. Other materials of "O" rings available.
- **SECURE TUBE RETENTION**, pulling on tubing only serves to tighten the connection.
- **SELF CONTAINED ASSEMBLY**, no loose parts, brass body and insert.
- **BRASS CONSTRUCTION**, elbows and tees are forged brass.
- **CHOICE** of convenient swivel or economical stationary elbows and tees.
- **STRAIGHT CONNECTORS** have interior hex for Allen key tightening where space is limited...no need to use a wrench.
- **PRE-APPLIED TEFLON**® based pipe sealant on all male pipe threads, saving customer additional labor.
- **METRIC SIZES AVAILABLE**: Metric tube sizes from 2mm through 12mm in both standard NPT and metric pipe sizes are available on a special order basis.
- **WORKING TEMPERATURE**:  
-10°F to 200°F (other ranges available on request).
- **PIPE THREAD**: NPTF with Teflon® based sealant pre-applied.



When tubing (1) is inserted into the fitting, it first passes through the gripping teeth (2). Just beyond the gripping teeth is the o-ring (3) which provides the leak proof seal against the OD of the tube. The gripping teeth grab the tube, which expands the insert. Pulling back on the tube only tightens the grip as the insert moves onto the camming surface (4). Pressure through the tube also serves to tighten the grip. The tube bottoms against a positive tube stop (5) in a cavity providing tube support to prevent leakage.

#### • Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical

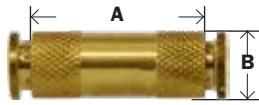
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BRASS PUSH-IN FITTINGS

## BRASS FITTINGS

### UNION CONNECTOR

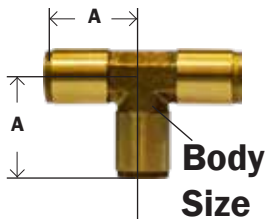


AQ62P  
MQ62

PART #	TUBE O.D.	A	B	APPROX. WT. LBS.	
20017	1/8"	1.07	0.38	0.03	----
20018	5/32"	1.07	0.38	0.03	----
20019	1/4"	1.50	0.44	0.05	----
20022	3/8" x 1/4"	1.46	0.56	0.05	----
20020	3/8"	1.44	0.56	0.06	----
20021	1/2"	1.63	0.81	0.18	----

AQ62 6580 3106 62PL KQH 12-020 50-562 262-OF 1162 262PP

### UNION TEE



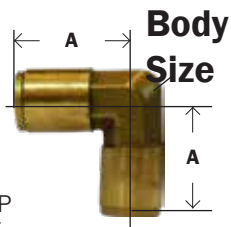
AQ64P  
MQ64

PART #	TUBE O.D.	A	BODY SIZE	APPROX. WT. LBS.	
20025	1/8"	0.65	0.31	0.04	----
20026	5/32"	0.67	0.31	0.04	----
20027	3/16"	0.75	0.37	0.06	----
20028	1/4"	0.92	0.37	0.09	----
20031*	5/16"	0.89	0.49	0.10	----
20029	3/8"	0.98	0.50	0.13	----
20030	1/2"	1.16	0.62	0.24	----

\* Nickel Plated

KQT 12-060 50-564 264OF 264PP 1164 AQ64 6540 3140

### UNION ELBOW

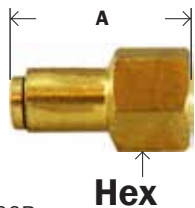


AQ65P  
MQ65

PART #	TUBE O.D.	A	BODY SIZE	APPROX. WT. LBS.	
20150	1/8"	0.65	0.31	0.02	----
20151	5/32"	0.67	0.31	0.04	----
20152	1/4"	0.87	0.37	0.06	----
20155	5/16"	0.91	0.47	0.08	----
20153	3/8"	0.97	0.50	0.09	----
20154	1/2"	1.15	0.62	0.18	----

AQ65 6550 3102 165PL KQL 12-040 50-565 265-OF

### FEMALE CONNECTOR



AQ66P

PART #	TUBE O.D. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
20032	1/8" x 1/8"	0.96	0.56	0.04	----
20038	1/8" x 1/4"	1.04	0.67	0.04	----
20012	5/32" x 1/8"	1.09	0.56	0.05	----
20034	1/4" x 1/8"	1.23	0.56	0.06	----
20035	1/4" x 1/4"	1.42	0.75	0.09	----
20036	3/8" x 1/4"	1.32	0.75	0.09	----
20037	3/8" x 3/8"	1.31	0.87	0.12	----

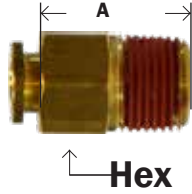
266PP AQ66 6463 3114 66PL 12-426 50-566 266-OF 1166

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

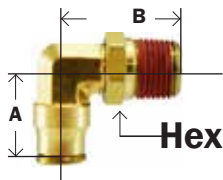
**BRASS PUSH-IN FITTINGS**

## BRASS FITTINGS

**MALE CONNECTOR**AQ68P  
MQ68

PART #	TUBE O.D. X MALE NPTF	A	HEX	APPROX. WT. LBS.	
20047*	1/8" x 10-32"*	0.69	0.37	0.02	----
20045	1/8" x 1/16"	0.68	0.37	0.02	----
20048	1/8" x 1/8"	0.61	0.43	0.02	----
20023	1/8" x 1/4"	0.98	0.56	0.04	----
20049*	5/32" x 10-32"*	0.67	0.37	0.02	----
20050	5/32" x 1/8"	0.67	0.43	0.03	----
20046	5/32" x 1/4"	0.85	0.56	0.05	----
20051*	3/16" x 10-32"*	0.80	0.37	0.02	----
20052	3/16" x 1/8"	0.93	0.43	0.03	----
20053*	1/4" x 10-32"*	0.70	0.43	0.03	----
20039	1/4" x 1/16"	0.92	0.43	0.06	----
20054	1/4" x 1/8"	0.93	0.43	0.06	----
20055	1/4" x 1/4"	0.93	0.56	0.10	----
20056	1/4" x 3/8"	0.94	0.68	0.08	----
20530	5/16" x 1/8"	1.07	0.56	0.05	----
20531	5/16" x 1/4"	0.98	0.56	0.10	----
20532	5/16" x 3/8"	1.06	0.75	0.08	----
20057	3/8" x 1/8"	1.10	0.56	0.06	----
20058	3/8" x 1/4"	1.11	0.56	0.05	----
20059	3/8" x 3/8"	1.02	0.68	0.08	----
20062	3/8" x 1/2"	1.02	0.87	0.08	----
20060	1/2" x 1/4"	1.36	0.81	0.11	----
20061	1/2" x 3/8"	1.30	0.81	0.12	----
20063	1/2" x 1/2"	1.23	0.87	0.14	----

\* Furnished with gaskets 268PP AQ68 6510 3115 68PL KQH 12-425 50-568 268-OF 1168

**SWIVEL MALE ELBOW**AQ69PS  
MQ69S

PART #	TUBE O.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
20079	1/8" x 1/8"	0.69	0.98	0.43	0.07	----
20535*	1/8" x 1/4"	0.76	0.87	0.56	0.06	----
20076**	5/32" x 10-32"	0.67	0.71	0.37	0.04	----
20080	5/32" x 1/8"	0.68	0.89	0.43	0.05	----
20077	5/32" x 1/4"	0.68	1.08	0.56	0.07	----
20078**	1/4" x 10-32"	0.86	0.79	0.31	0.05	----
20081	1/4" x 1/8"	0.90	0.93	0.37	0.08	----
20082	1/4" x 1/4"	0.90	0.99	0.56	0.10	----
20086	1/4" x 3/8"	0.98	1.14	0.68	0.09	----
20538*	5/16" x 1/4"	0.91	0.85	0.56	0.07	----
20539*	5/16" x 3/8"	0.91	0.87	0.75	0.08	----
20087	3/8" x 1/8"	1.00	1.06	0.43	0.09	----
20083	3/8" x 1/4"	0.99	1.15	0.56	0.10	----
20084	3/8" x 3/8"	1.00	1.24	0.68	0.20	----
20088	3/8" x 1/2"	1.00	1.54	0.87	0.19	----
20085	1/2" x 3/8"	1.16	1.34	0.68	0.18	----
20092	1/2" x 1/2"	1.16	1.51	0.87	0.24	----

\* Nickel Plated

aq69-ps 56520 3109 169pl kql 12-447 50-579 269-OFS 11695

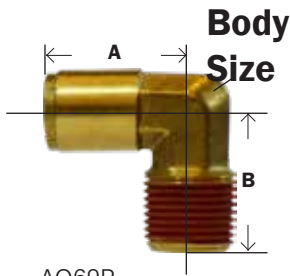
\*\* Furnished with gaskets

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRASS PUSH-IN FITTINGS

## BRASS FITTINGS

### FIXED MALE ELBOW



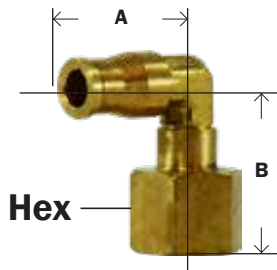
AQ69P  
MQ69

PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20065	1/8" x 1/8"	0.69	0.69	0.31	0.03	----
20066	5/32" x 1/8"	0.68	0.68	0.31	0.03	----
20067	3/16" x 1/8"	0.75	0.71	0.37	0.04	----
20068	1/4" x 1/8"	0.89	0.75	0.37	0.06	----
20069	1/4" x 1/4"	0.95	0.96	0.37	0.08	----
20070	1/4" x 3/8"	1.00	0.98	0.50	0.10	----
20071	3/8" x 1/8"	0.99	0.80	0.50	0.06	----
20072	3/8" x 1/4"	0.98	0.98	0.50	0.09	----
20073	3/8" x 3/8"	0.97	0.98	0.50	0.12	----
20074	1/2" x 1/4"	1.15	1.05	0.62	0.15	----
20075	1/2" x 3/8"	1.18	1.05	0.62	0.22	----
20064	1/2" x 1/2"	1.16	1.66	0.62	0.20	----

269PP AQ69-P 6500 169PLNS 12-445 1169

Dimension data can change without notice. Please check when dimensions are critical.

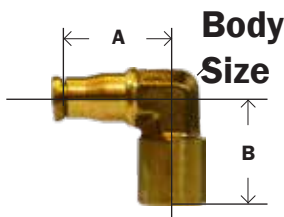
### FEMALE SWIVEL ELBOW



AQ70PS  
MQ70S

PART #	TUBE O.D. X FEMALE NPTF	A	B	HEX	
20094S	5/32" x 1/8"	0.76	1.06	0.56	----
20089S	1/4" x 1/8"	0.98	1.08	0.56	----
20090S	1/4" x 1/4"	0.98	1.26	0.75	----
20091S	3/8" x 1/4"	1.07	1.48	0.75	----

### FEMALE ELBOW



AQ70P  
MQ70

PART #	TUBE O.D. X FEMALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20192	1/8" x 1/8"	0.78	0.82	0.31	0.02	----
20094	5/32" x 1/8"	0.68	0.82	0.37	0.02	----
20089	1/4" x 1/8"	0.91	0.75	0.37	0.06	----
20090	1/4" x 1/4"	1.03	1.03	0.50	0.11	----
20091	3/8" x 1/4"	0.98	0.95	0.50	0.16	----

AQ70-P 3009

one Man with Courage makes a majority.

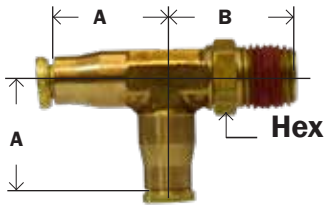
- Andrew Jackson

**WARNING:** This product can be exposed to chemicals, including lead, which may cause cancer, reproductive problems, and other health effects. For more information, visit [www.epa.gov/airquality/airquality/warnings.ca.gov](http://www.epa.gov/airquality/airquality/warnings.ca.gov).

BRASS

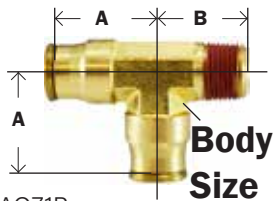
**BRASS PUSH-IN FITTINGS**

## BRASS FITTINGS

**SWIVEL MALE RUN TEE**AQ71PS  
MQ71S

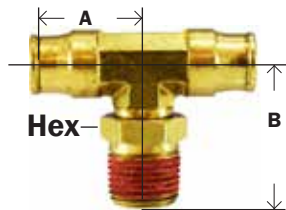
PART #	TUBE O.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
20160	1/8" x 1/8"	0.65	0.86	0.43	0.08	----
20161	5/32" x 1/8"	0.67	1.04	0.43	0.09	----
20162	1/4" x 1/8"	0.92	1.04	0.44	0.09	----
20163	1/4" x 1/4"	0.92	1.13	0.56	0.11	----
20164	3/8" x 1/4"	0.94	1.19	0.56	0.11	----
20165	3/8" x 3/8"	0.96	1.24	0.50	0.12	----
20174	1/2" x 1/4"	1.12	1.18	0.51	0.16	----
20166	1/2" x 3/8"	1.14	1.31	0.68	0.14	----
20167	1/2" x 1/2"	1.14	1.61	0.87	0.16	----

AQ71-PS 56440 3103 171PL KQY 12-468 50-571 271-OFS 11715

**FIXED MALE RUN TEE**AQ71P  
MQ71

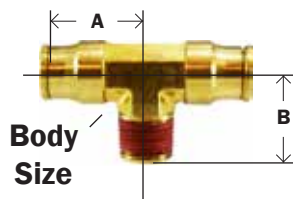
PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20095	1/8" x 1/8"	0.65	0.72	0.31	0.04	----
20097	3/16" x 1/8"	0.75	0.73	0.37	0.06	----
20098	1/4" x 1/8"	0.92	0.74	0.37	0.08	----
20093	1/4" x 1/4"	0.92	0.92	0.43	0.10	----
20099	3/8" x 1/8"	0.94	0.82	0.50	0.14	----
20100	3/8" x 1/4"	0.98	0.98	0.50	0.12	----
20101	3/8" x 3/8"	1.05	1.05	0.62	0.10	----
20102	1/2" x 3/8"	1.14	1.05	0.62	0.18	----

AQ71-P

**SWIVEL MALE BRANCH TEE**AQ72PS  
MQ72S

PART #	TUBE O.D. X MALE NPTF	A	B	HEX	APPROX. WT. LBS.	
20103	1/8" x 1/8"	0.65	0.81	0.31	0.04	----
20104*	5/32" x 10-32**	0.65	0.71	0.31	0.04	----
20109	5/32" x 1/8"	0.67	0.94	0.37	0.06	----
20105	1/4" x 1/8"	0.92	0.97	0.43	0.08	----
20106	1/4" x 1/4"	0.92	1.09	0.55	0.10	----
20107	3/8" x 1/4"	0.96	1.14	0.56	0.18	----
20108	3/8" x 3/8"	0.96	1.23	0.69	0.16	----
20110	1/2" x 3/8"	1.16	1.34	0.69	0.24	----
20111	1/2" x 1/2"	1.16	1.64	0.87	0.28	----

\* Furnished with gaskets

**FIXED MALE BRANCH TEE**AQ72P  
MQ72

PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20112	1/8" x 1/8"	0.69	0.72	0.31	0.04	----
20113	5/32" x 1/8"	0.69	0.65	0.31	0.04	----
20115	1/4" x 1/8"	0.92	0.74	0.37	0.12	----
20116	1/4" x 1/4"	0.91	0.91	0.43	0.10	----
20117	3/8" x 1/8"	0.98	0.80	0.50	0.08	----
20118	3/8" x 1/4"	0.98	0.97	0.50	0.12	----
20119	3/8" x 3/8"	0.98	0.97	0.50	0.14	----
20120	1/2" x 3/8"	1.16	1.05	0.62	0.18	----

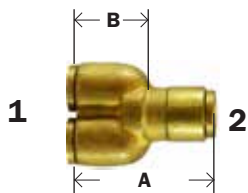
AQ72-P

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRASS PUSH-IN FITTINGS

## BRASS FITTINGS

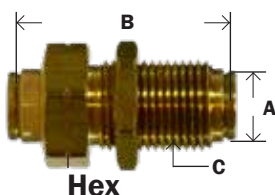
### UNION "Y"



AQ89P

PART #	TUBE O.D. 1 X 2	A	B	APPROX. WT. LBS.	
20551	5/32" x 5/32"	1.36	0.81	0.11	----
20552	1/4" x 1/8"	1.61	1.06	0.12	----
20553	1/4" x 1/4"	1.81	1.16	0.14	----

### BULKHEAD UNION

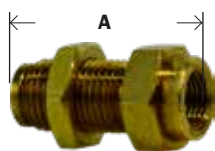


AQ82P  
MQ82

PART #	TUBE O.D. A	B	C	HEX	APPROX. WT. LBS.	
20124	1/8"	1.12	7/16-20	0.62	0.03	----
20125	5/32"	1.12	7/16-20	0.62	0.03	----
20126	3/16"	1.27	1/2-20	0.68	0.04	----
20127	1/4"	1.69	1/2-20	0.68	0.06	----
20128	3/8"	1.69	3/4-16	0.81	0.13	----
20129	1/2"	1.85	15/16-20	1.12	0.16	----

AQ82-P 6590 62PLBH KQE 12-029 50-582 282-OF 1174

### FEMALE BULKHEAD UNION



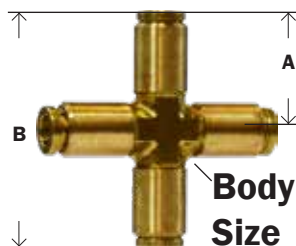
AQ86P  
MQ86

PART #	TUBE O.D. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
20170	1/4" x 1/8"	1.19	0.68	0.08	----
20171	1/4" x 1/4"	1.36	0.75	0.10	----
20172	3/8" x 1/4"	1.71	0.75	0.14	----

AQ86-P 1166BH

Dimension data can change without notice. Please call us when dimensions are critical.

### CROSS



SIZE	SIZE	A	B	BODY SIZE	
20142	1/4"	1.03	2.06	0.37	----
20143	3/8"	1.06	2.12	0.50	----

### REDUCER - NICKEL PLATED - TUBE OD X STUD



MQ97

PART #	TUBE O.D. 1 X 2	A	B	APPROX. WT. LBS.	
20510	1/8" x 1/4"	1.38	0.39	0.02	----
20511	5/32" x 1/4"	1.33	0.35	0.02	----
20512	1/4" x 3/8"	1.50	0.51	0.04	----

67PPL 286PP

### PLASTIC PLUG



AQ59P  
MQ59

• Cored

PART #	TUBE O.D.	A	APPROX. WT. LBS.	
20009	5/32"	1.16	0.01	----
20010	1/4"	1.40	0.01	----
20011	3/8"	1.40	0.02	----
20013	1/2"	1.50	0.02	----

284PP AQ59 209-OF 1129 6900 639PL 12-004 50-526

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P66Warnings.ca.gov

BRASS



**NICKEL PLATED PUSH-IN FITTINGS**

BRASS FITTINGS

**NICKEL PLATED PUSH-IN FITTINGS  
WITH GLOBAL THREAD**

• NPTF • BSPP • BSPT • ISO 7 • ISO 228 • G THREAD • J THREAD



- Saves time and money
- No stripped threads
- No stripped parts
- Reduce inventory
- Completely reusable
- Quick installation
- No pitch identification

**Component Parts and Materials**

Body	Brass - Nickel Plated
Thrust Ring	Acetalic Resin/ Glass filled Nylon
Sleeve	Brass - Nickel Plated
Gripper Collet	Stainless Steel
Safety Ring	PA66
Lip Seal ( 1/8 O-Ring Seal)	NBR 70
Thread Seal	NBR 70

Max Operating Pressure: Vacuum to 290PSI.  
 Min Temperature: -4°F  
 Max Temperature: 176°F  
 Tubing: Nylon, Polyethylene, Polyurethane.  
 - For best results use 95 Durometer  
 Media: Compressed air, water, vacuum

**• Tolerance**

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

**GLOBAL THREAD****WORKS WITH INCH OR METRIC THREADS**

“Global Thread” fittings can be assembled with female threads produced to the following standards:

Tapered NPTF  
 Parrallel (BSPP, BSP, ISO 7)  
 Tapered (BSPT, PT, ISO 7, ISO 228)

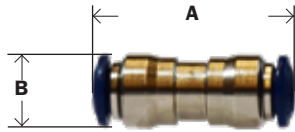
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

### NICKEL PLATED PUSH-IN FITTINGS

#### UNION CONNECTOR

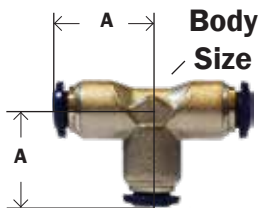


PART #	TUBE O.D.	A	B	APPROX. WT. LBS.	
20017N	1/8"	1.06	0.34	0.03	----
20018N*	5/32"	1.20	0.41	0.03	----
20016N	5/32" x 1/4"	1.20	0.40	0.04	----
20019N*	1/4"	1.38	0.49	0.05	----
20015N*	5/16"	1.46	0.57	0.06	----
20020N*	3/8"	1.69	0.69	0.06	----
20022N	3/8" x 1/4"	1.69	0.68	0.06	----
20021N*	1/2"	1.93	0.81	0.18	----
20024N	1/2" x 3/8"	1.84	0.80	0.17	----

\* Available in SS

62PL 88040

#### UNION TEE

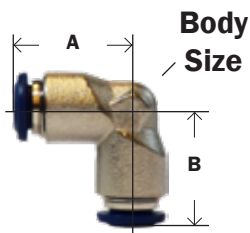


PART #	TUBE O.D.	A	BODY SIZE	APPROX. WT. LBS.	
20025N	1/8"	0.67	0.35	0.04	----
20026N*	5/32"	0.67	0.35	0.04	----
20028N*	1/4"	0.83	0.43	0.09	----
20031N*	5/16"	0.87	0.51	0.10	----
20029N*	3/8"	1.04	0.63	0.13	----
20030N*	1/2"	1.20	0.74	0.24	----

\* Available in SS

164PL 88230

#### UNION ELBOW

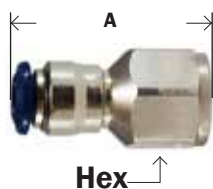


PART #	TUBE O.D.	A	BODY SIZE	APPROX. WT. LBS.	
20150N	1/8"	0.67	0.35	0.02	----
20151N*	5/32"	0.67	0.35	0.04	----
20152N*	1/4"	0.83	0.43	0.06	----
20155N*	5/16"	0.87	0.51	0.08	----
20153N*	3/8"	1.04	0.63	0.09	----
20154N*	1/2"	1.20	0.75	0.18	----

\* Available in SS

165PL 88130

#### FEMALE CONNECTOR



PART #	TUBE O.D. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
20032N	1/8" x 1/8"	0.93	0.51	0.04	----
20038N	1/8" x 1/4"	1.14	0.63	0.04	----
20034N	1/4" x 1/8"	1.06	0.51	0.06	----
20035N	1/4" x 1/4"	1.26	0.63	0.09	----
20036N	3/8" x 1/4"	1.38	0.71	0.09	----
20037N	3/8" x 3/8"	1.38	0.79	0.12	----

66PL 88030

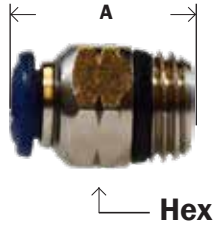
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

### MALE CONNECTOR

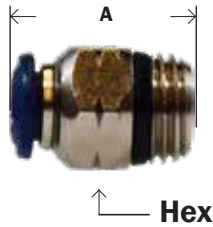


• Can be purchased with NPTF threads upon request

\* Available in stainless steel

PART #	TUBE O.D. X MALE GLOBAL THREAD	A	HEX	APPROX. WT. LBS.	
20047N	1/8" x 10-32"	0.75	0.31	0.02	----
20048N	1/8" x 1/8"	0.77	0.43	0.02	----
20023N	1/8" x 1/4"	0.97	0.55	0.04	----
20049N*	5/32" x 10-32"	0.83	0.39	0.02	----
20050N*	5/32" x 1/8"	0.83	0.43	0.03	----
20046N*	5/32" x 1/4"	0.98	0.55	0.05	----
20053N*	1/4" x 10-32"	0.97	0.51	0.03	----
20054N*	1/4" x 1/8"	0.98	0.51	0.06	----
20055N*	1/4" x 1/4"	0.98	0.55	0.10	----
20056N	1/4" x 3/8"	0.98	0.71	0.08	----
20530N*	5/16" x 1/8"	0.98	0.55	0.05	----
20531N*	5/16" x 1/4"	1.08	0.55	0.10	----
20532N	5/16" x 3/8"	1.08	0.71	0.08	----
20057N	3/8" x 1/8"	1.38	0.67	0.06	----
20058N*	3/8" x 1/4"	1.32	0.67	0.05	----
20059N*	3/8" x 3/8"	1.32	0.71	0.08	----
20062N	3/8" x 1/2"	1.32	0.87	0.08	----
20841N	1/2" x 1/8"	1.03	0.79	0.12	----
20060N	1/2" x 1/4"	1.54	0.79	0.11	----
20061N*	1/2" x 3/8"	1.42	0.79	0.12	----
20063N*	1/2" x 1/2"	1.58	0.87	0.14	----

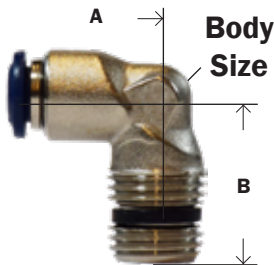
### MALE CONNECTOR WITH INTERNAL HEX



PART #	TUBE O.D. X MALE GLOBAL THREAD	A	HEX	APPROX. WT. LBS.	
20842N	1/8" x 10-32" UNF	0.71	0.10	0.02	----
20847N	5/32" x 10-32 UNF	0.79	0.10	0.02	----
20846N	5/32" x 1/8"	0.71	0.12	0.03	----
20845N	1/4" x 10-32" UNF	0.93	0.10	0.03	----
20843N	1/4" x 1/8"	0.93	0.16	0.06	----
20844N	1/4" x 1/4"	0.85	0.16	0.10	----

68PL 8700

### FIXED MALE ELBOW



PART #	TUBE O.D. X MALE NPTF	A	B	BODY SIZE	APPROX. WT. LBS.	
20068N	1/4" x 1/8"	0.83	0.73	0.43	0.06	----
20069N	1/4" x 1/4"	0.83	0.91	0.43	0.08	----
20072N	3/8" x 1/4"	1.04	1.04	0.63	0.09	----
20073N	3/8" x 3/8"	1.04	1.00	0.63	0.12	----

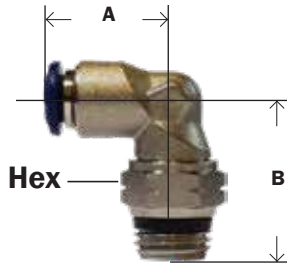
W169PLNS 8100

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

### SWIVEL MALE ELBOW



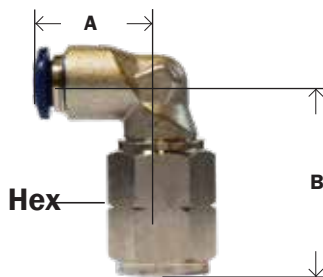
• Can be purchased with NPTF threads upon request

\* Available in stainless steel

PART #	TUBE O.D. X MALE GLOBAL THREAD	A	B	HEX	APPROX. WT. LBS.	
20079N	1/8" x 1/8"	0.67	0.78	0.51	0.07	----
20535N	1/8" x 1/4"	0.67	0.95	0.59	0.06	----
20076N*	5/32" x 10-32"	0.67	0.95	0.59	0.04	----
20080N*	5/32" x 1/8"	0.67	0.79	0.51	0.05	----
20848N*	5/32" x 1/4"	0.67	1.00	0.59	0.05	----
20081N*	1/4" x 1/8"	0.83	0.87	0.51	0.08	----
20082N*	1/4" x 1/4"	0.83	0.98	0.59	0.10	----
20086N	1/4" x 3/8"	0.83	1.10	0.67	0.09	----
20537N*	5/16" x 1/8"	0.91	0.98	0.51	0.06	----
20538N*	5/16" x 1/4"	0.89	1.02	0.59	0.07	----
20539N	5/16" x 3/8"	0.87	1.10	0.67	0.08	----
20087N	3/8" x 1/8"	1.04	1.02	0.51	0.09	----
20083N*	3/8" x 1/4"	1.04	1.10	0.59	0.10	----
20084N*	3/8" x 3/8"	1.04	1.18	0.67	0.20	----
20088N*	3/8" x 1/2"	1.04	1.30	0.83	0.19	----
20184N	1/2" x 1/4"	1.24	1.30	0.59	0.17	----
20085N*	1/2" x 3/8"	1.20	1.24	0.59	0.18	----
20092N*	1/2" x 1/2"	1.20	1.42	0.83	0.24	----

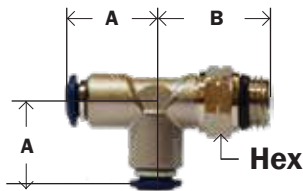
W169PL 87110

### FEMALE SWIVEL ELBOW



PART #	TUBE O.D. X FEMALE NPTF	A	B	HEX	
20094N	5/32" x 1/8"	0.669	0.994	0.354	----
20089N	1/4" x 1/8"	0.826	1.023	0.433	----
20090N	1/4" x 1/4"	0.826	1.200	0.433	----
20762N	3/8" x 1/8"	0.885	1.082	0.511	----
20091N	3/8" x 1/4"	0.885	1.240	0.511	----

### SWIVEL MALE RUN TEE



• Can be purchased with NPTF threads upon request

PART #	TUBE O.D. X MALE GLOBAL THREAD	A	B	HEX	APPROX. WT. LBS.	
20095N	1/8" x 1/8"	0.67	0.81	0.51	0.05	----
20851N	1/8" x 1/4"	0.67	0.95	0.59	0.06	----
20852N	5/32" x 1/8"	0.67	0.79	0.51	0.07	----
20853N	5/32" x 1/4"	0.67	0.95	0.59	0.07	----
20162N	1/4" x 1/8"	0.83	0.87	0.51	0.09	----
20163N	1/4" x 1/4"	0.83	0.98	0.59	0.11	----
20164N	1/4" x 3/8"	0.83	1.10	0.59	0.11	----
20159N	3/8" x 1/8"	1.04	1.07	0.59	0.12	----
20168N	3/8" x 1/4"	1.04	1.10	0.59	0.12	----
20165N	3/8" x 3/8"	1.04	1.18	0.67	0.12	----
20181N	3/8" x 1/2"	1.20	1.24	0.59	0.15	----
20174N	1/2" x 1/4"	1.20	1.24	0.59	0.16	----
20166N	1/2" x 3/8"	1.20	1.30	0.67	0.14	----
20167N	1/2" x 1/2"	1.20	1.42	0.83	0.17	----

W171PL 87222

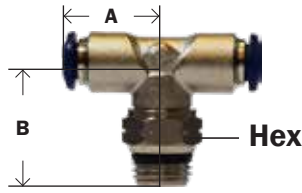
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

### SWIVEL MALE BRANCH TEE



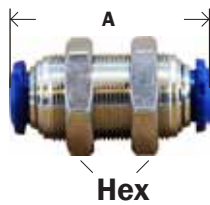
- Can be purchased with NPTF threads upon request

\* Available in stainless steel

PART #	TUBE O.D. X MALE GLOBAL THREAD	A	B	HEX	APPROX. WT. LBS.	
20103N	1/8" x 1/8"	0.67	0.78	0.51	0.04	----
20104N	5/32" x 10-32"	0.67	0.79	0.31	0.04	----
20109N	5/32" x 1/8"	0.70	0.79	0.51	0.06	----
20850N	5/32" x 1/4"	0.67	1.00	0.59	0.06	----
20105N	1/4" x 1/8"	0.83	0.87	0.51	0.08	----
20106N	1/4" x 1/4"	0.83	0.98	0.59	0.10	----
20156N	1/4" x 3/8"	1.043	1.10	0.59	0.18	----
20157N	3/8" x 1/8"	1.04	1.08	0.59	0.18	----
20107N	3/8" x 1/4"	1.04	1.10	0.59	0.18	----
20108N	3/8" x 3/8"	1.04	1.18	0.67	0.16	----
20158N	3/8" x 1/2"	1.04	1.30	0.82	0.18	----
20112N	1/2" x 1/4"	1.20	1.24	0.59	0.23	----
20110N	1/2" x 3/8"	1.20	1.30	0.67	0.24	----
20111N	1/2" x 1/2"	1.20	1.42	0.82	0.28	----

W172PL 87210

### BULKHEAD UNION

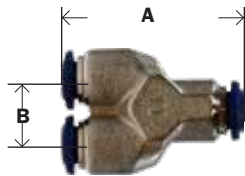


\* Available in stainless steel

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
20124N	1/8"	1.03	0.55	0.04	----
20125N*	5/32"	1.22	0.67	0.05	----
20127N*	1/4"	1.38	0.67	0.06	----
20123N*	5/16"	1.45	0.74	0.08	----
20128N*	3/8"	1.69	0.94	0.13	----
20129N*	1/2"	1.93	1.02	0.15	----

62PLBH 88050

### UNION "Y"



PART #	TUBE O.D.	A	B	APPROX. WT. LBS.	
20553N	1/4" x 1/4"	1.44	0.53	0.14	----

662PL 88310

### REDUCER



PART #	TUBE O.D. 2	TUBE O.D. 1	A	
20510N	1/4"	1/8"	1.142	----
20511N	1/4"	5/32"	1.181	----
20512N	3/8"	1/4"	1.496	----
20513N	1/2"	1/4"	1.693	----
20514N	1/2"	3/8"	1.693	----

67PPL 88700

Also available:

- Nylon plug
- Single banjo
- Double banjo
- Push fit cartridges and tools

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

### CHROME PLATED BRASS MINI BALL VALVES

- Compact Design
- Max Working Pressure 250 psi



#### PUSH-IN X PUSH-IN

PART #	SIZE	BOX/CASE	WGT.	
28400	1/8	30/300	.07	----
28401	1/4	30/300	.10	----
28402	3/8	20/200	.21	----



#### PUSH-IN X MALE PIPE

PART #	SIZE TUBE X MIP	BOX/ CASE	WGT.	
28403	5/32 x 1/8	30/300	.08	----
28407	1/4 x 1/8	30/300	.08	----
28404	1/4 x 1/4	30/300	.10	----
28405	3/8 x 3/8	20/200	.17	----



#### FIP X FIP

PART #	SIZE	BOX/CASE	WGT.	
46650	1/8	30/300	.11	----
46651	1/4	30/300	.10	----
46652	3/8	20/200	.14	----
46653	1/2	15/150	.25	----



#### MIP X FIP

PART #	SIZE	BOX/CASE	WGT.	
46660	1/8	30/300	.11	----
46661	1/4	30/300	.10	----
46662	3/8	20/200	.14	----
46663	1/2	15/150	.25	----

- Optional colors of handle plate for identification

#### PANEL MOUNT DESIGN



#### FIP X FIP ANGLE

PART #	SIZE	BOX/CASE	WGT.	
46670	1/8	20/200	.19	----
46671	1/4	20/200	.20	----
46672	3/8	25/250	.11	----



#### 3-WAY FIP - OPEN CENTER

PART #	SIZE	BOX/CASE	WGT.	
466900	1/8	25/250	.13	----
466901	1/4	20/200	.21	----
466902	3/8	20/200	.21	----



#### 3-WAY FIP - CLOSED CENTER

PART #	SIZE	BOX/CASE	WGT.	
46680	1/8	25/250	.13	----
46681	1/4	20/200	.21	----
46682	3/8	20/200	.21	----

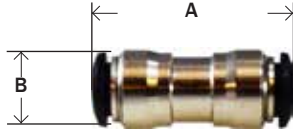
See page 198-200 for more mini ball valves  
Stainless Steel mini ball valves on page 212 and 213

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NICKEL PLATED METRIC PUSH-IN FITTINGS

## BRASS FITTINGS

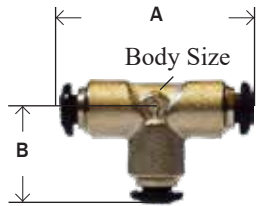
### UNION



PART #	TUBE O.D. (MM)	TUBE O.D. (MM)	A	B	
20723N	3		1.014	0.332	----
20600N*	4		1.190	0.410	----
20724N	5		1.287	0.449	----
20725N	6	4	1.248	0.488	----
20601N*	6		1.326	0.488	----
20726N	8	6	1.365	0.566	----
20727N*	8		1.404	0.566	----
20728N	10	8	1.638	0.683	----
20603N*	10		1.638	0.683	----
20729N	12	10	1.833	0.800	----
20604N*	12		1.833	0.800	----
20730N	14		1.911	0.839	----

\* Available in SS

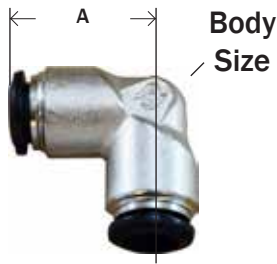
### UNION TEE



PART #	TUBE O.D. (MM)	A	B	BODY SIZE	
20741N	3	1.326	0.663	0.351	----
20610N*	4	1.326	0.663	0.351	----
20742N	5	1.560	0.780	0.429	----
20611N*	6	1.638	0.819	0.429	----
20612N*	8	1.755	0.878	0.507	----
20613N*	10	2.067	1.034	0.624	----
20614N*	12	2.379	1.190	0.741	----
20743N	14	2.379	2.535	0.741	----

\* Available in SS

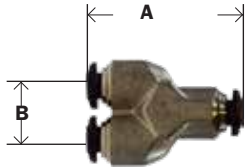
### UNION ELBOW



PART #	TUBE O.D. (MM)	A	BODY SIZE	
20738N	3	0.663	0.51	----
20206N*	4	0.663	0.351	----
20739N	5	0.780	0.429	----
20660N*	6	0.780	0.429	----
20661N*	8	0.878	0.507	----
20807N*	10	1.034	0.624	----
20808N*	12	1.190	0.741	----
20740N	14	1.268	0.741	----

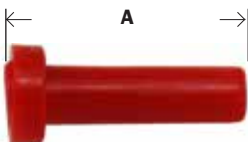
\* Available in SS

### UNION Y



PART #	TUBE O.D. (MM)	B	A	
20744N	3	0.390	1.131	----
20813N	4	0.429	1.248	----
20745N	5	0.527	1.365	----
20814N	6	0.527	1.424	----
20815N	8	0.605	1.599	----
20746N	10	0.728	1.890	----

### PLUG



PART #	TUBE O.D. (MM)	A	
20748N	4	0.917	----
20749N	5	0.956	----
20750N	6	0.956	----
20751N	8	1.014	----
20752N	10	1.112	----
20753N	12	1.190	----

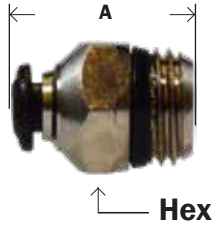
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NICKEL PLATED METRIC PUSH-IN FITTINGS

BRASS FITTINGS

## NICKEL PLATED METRIC PUSH-IN FITTINGS

### METRIC TUBE STRAIGHT MALE

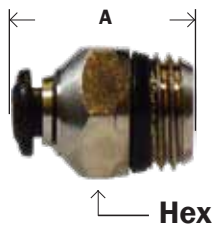


• Can be purchased with BSPP or BSPT Threads

\* Available in SS

PART #	TUBE O.D. (MM)	GLOBAL THREAD	A	HEX	
20630N*	4	1/8"	0.702	0.429	----
20631N*	4	1/4"	0.760	0.546	----
20700N	5	1/8"	0.78	0.429	----
20701N	5	1/4"	0.78	0.546	----
20632N*	6	1/8"	0.78	0.546	----
20633N*	6	1/4"	0.819	0.546	----
20628N	6	3/8"	0.90	0.546	----
20629N	6	1/2"	0.92	0.546	----
20702N*	8	1/8"	0.955	0.546	----
20634N*	8	1/4"	0.858	0.546	----
20635N	8	3/8"	0.897	0.663	----
20703N	8	1/2"	0.897	0.663	----
20636N*	10	1/4"	1.092	0.663	----
20637N*	10	3/8"	1.092	0.663	----
20704N*	10	1/2"	1.014	0.663	----
20801N	12	1/4"	1.267	0.78	----
20638N*	12	3/8"	1.267	0.78	----
20705N*	12	1/2"	1.209	0.78	----
20706N	14	3/8"	1.287	0.858	----
20707N	14	1/2"	1.248	0.858	----

### METRIC TUBE INTERNAL HEX

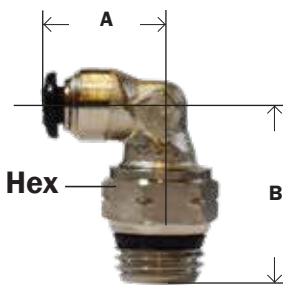


• Can be purchased with BSPP or BSPT Threads

\* Available in SS w BSPP or BSPT Threads

PART #	TUBE O.D. (MM)	GLOBAL THREAD	A	HEX	
20619N	3	M5	0.31	0.31	----
20620N	4	1/8"	0.71	0.43	----
20621N*	4	M5	0.39	0.38	----
20622N	4	M7 x 1"	0.83	0.38	----
20623N	6	1/4"	0.83	0.55	----
20624N	6	1/8"	0.85	0.47	----
20625N*	6	M5	0.47	0.47	----
20626N	8	1/4"	0.88	0.55	----
20627N	8	1/8"	0.98	0.55	----

### METRIC TUBE SWIVEL MALE ELBOW



• Can be purchased with BSPP or BSPT Threads

\* Available in SS w BSPP or BSPT Threads

PART #	TUBE O.D. (MM)	GLOBAL THREAD	A	B	HEX	
20708N*	4	1/8"	0.663	0.780	0.507	----
20709N*	4	1/4"	0.663	0.936	0.585	----
20710N	5	1/8"	0.780	0.858	0.507	----
20642N*	6	1/8"	0.819	0.858	0.507	----
20803N*	6	1/4"	0.819	0.975	0.585	----
20711N*	8	1/8"	0.878	0.917	0.507	----
20805N*	8	1/4"	0.878	1.014	0.585	----
20655N	8	3/8"	0.878	1.092	0.663	----
20712N	8	1/2"	0.878	1.404	0.819	----
20656N*	10	1/4"	1.034	1.092	0.585	----
20657N*	10	3/8"	1.034	1.170	0.663	----
20713N*	10	1/2"	1.034	1.287	0.819	----
20658N*	12	3/8"	1.190	1.287	0.663	----
20659N*	12	1/2"	1.190	1.404	0.819	----
20714N	14	3/8"	1.268	1.404	0.663	----
20715N	14	1/2"	1.268	1.443	0.819	----

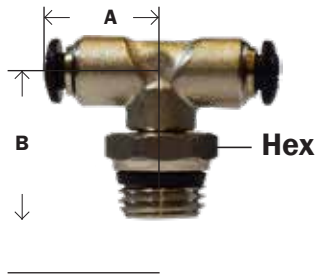
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# NICKEL PLATED METRIC PUSH-IN FITTINGS

## BRASS FITTINGS

### METRIC TUBE SWIVEL MALE BRANCH TEE

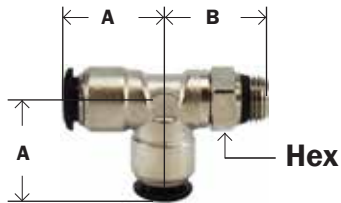


- Can be purchased with BSPP or BSPT threads

\* Available in SS w/BSPP or BSPT threads

PART #	TUBE O.D. (MM)	GLOBAL THREAD	A	B	HEX	
20680N*	4	1/8"	0.663	0.780	0.507	----
20716N*	4	1/4"	0.663	0.936	0.585	----
20717N	5	1/8"	0.78	0.858	0.507	----
20682N*	6	1/8"	0.819	0.858	0.507	----
20683N*	6	1/4"	0.819	0.975	0.585	----
20809N*	8	1/8"	0.877	0.917	0.507	----
20684N*	8	1/4"	0.877	1.014	0.585	----
20690N	8	3/8"	0.886	1.024	0.585	----
20691N	8	1/2"	0.886	1.122	0.585	----
20686N*	10	1/4"	1.033	1.092	0.585	----
20687N*	10	3/8"	1.033	1.170	0.663	----
20810N*	10	1/2"	1.033	1.287	0.819	----
20688N*	12	3/8"	1.189	1.287	0.663	----
20689N*	12	1/2"	1.189	1.404	0.819	----
20718N	14	3/8"	1.267	1.404	0.663	----
20719N	14	1/2"	1.267	1.443	0.819	----

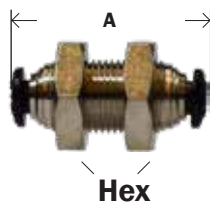
### METRIC TUBE SWIVEL MALE RUN TEE



- Can be purchased with BSPP threads

PART #	TUBE O.D. (MM)	GLOBAL THREAD	A	B	HEX	
20670N	4	1/8"	0.663	0.780	0.507	----
20720N	4	1/4"	0.663	0.936	0.585	----
20721N	5	1/8"	0.780	0.858	0.507	----
20672N	6	1/8"	0.819	0.858	0.507	----
20673N	6	1/4"	0.819	0.975	0.585	----
20811N	8	1/8"	0.819	0.917	0.507	----
20674N	8	1/4"	0.878	1.014	0.585	----
20668N	8	3/8"	0.885	1.063	0.585	----
20669N	8	1/2"	0.885	1.063	0.585	----
20676N	10	1/4"	0.878	1.092	0.585	----
20677N	10	3/8"	1.034	1.170	0.663	----
20722N	10	1/2"	1.034	1.287	0.819	----
20678N	12	3/8"	1.190	1.287	0.663	----
20679N	12	1/2"	1.190	1.404	0.819	----

### BULKHEAD



PART #	TUBE O.D. (MM)	M	A	HEX	
20731N	3	M10x1	1.014	0.546	----
20732N*	4	M12x1	1.229	0.663	----
20733N	5	M14x1	1.287	0.663	----
20734N*	6	M14x1	1.365	0.663	----
20735N*	8	M16x1	1.443	0.741	----
20736N*	10	M20x1	1.677	0.936	----
20737N*	12	M22x1	1.872	1.014	----

\* Available in SS


WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

# COMPOSITE BODY PUSH-IN FITTINGS



 • For Food Grade,  
see page 340-343

### Specifications

Fluid admitted	Air
Working pressure range	0-150 PSI (10BAR)
Min. Burst pressure	340PSI (23BAR)
Working Temperature range	0°F ~160°F

### Materials of Construction:

1	Body	Composite Polyacetal (hemopolymer, copolymer)
2	Body	Brass
3	Tube Release	Acetal Resin
4	Retainer	Brass
5	Gripper Ring	Stainless Steel
6	Spacer	Brass
7	O-Ring	NBR 70
8	Threads	Brass w/ white sealant


The latest generation of composite material is used in the body construction in addition to brass on threaded components and stainless steel on the tube gripper.

#### • Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

May you live all the  
days of your life.

- Jonathan Swift

 **WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**COMPOSITE BODY PUSH-IN FITTINGS**

## BRASS FITTINGS

## UNION



PART #	TUBE O.D.	APPROX. WT. LBS.	
20017C	1/8"	0.01	----
20018C	5/32"	0.01	----
20001C	3/16"	0.01	----
20019C	1/4"	0.01	----
20015C	5/16"	0.01	----
20020C	3/8"	0.02	----
20021C	1/2"	0.03	----
20016C	1/4" x 5/32"	0.01	----
20515C	5/16" x 1/4"	0.01	----
20022C	3/8" x 1/4"	0.01	----
20516C	3/8" x 5/16"	0.02	----
20024C	1/2" x 3/8"	0.03	----

PQ62P

## UNION TEE



PART #	TUBE O.D.	APPROX. WT. LBS.	
20025C	1/8"	0.01	----
20026C	5/32"	0.01	----
20027C	3/16"	0.02	----
20028C	1/4"	0.02	----
20031C	5/16"	0.02	----
20029C	3/8"	0.02	----
20030C	1/2"	0.08	----

PQ64P

## 90° UNION ELBOW



PART #	TUBE O.D.	APPROX. WT. LBS.	
20150C	1/8"	0.01	----
20151C	5/32"	0.01	----
20149C	3/16"	0.01	----
20152C	1/4"	0.02	----
20155C	5/16"	0.02	----
20153C	3/8"	0.02	----
20154C	1/2"	0.02	----

PQ65P

## UNION "Y" CONNECTOR



PART #	TUBE O.D.	APPROX. WT. LBS.	
20551C	5/32"	0.01	----
20553C	1/4"	0.02	----
20182C	5/16"	0.02	----
20555C	3/8"	0.02	----
20185C	1/2"	0.07	----

PQ89P

## FEMALE CONNECTOR

• Brass



PART #	TUBE O.D. X FEMALE NPT	APPROX. WT. LBS.	
20034C	1/4" x 1/8"	0.02	----
20035C	1/4" x 1/4"	0.04	----
20036C	3/8" x 1/4"	0.04	----
20037C	3/8" x 3/8"	0.06	----

PQ66P

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

### MALE CONNECTOR

- Nickel Plated



- See broader range of sizes on page 104
- N/P push-in fittings

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20050C	5/32" x 1/8"	0.02	----
20053C	1/4" x 10-32"	0.02	----
20054C	1/4" x 1/8"	0.02	----
20055C	1/4" x 1/4"	0.02	----
20056C	1/4" x 3/8"	0.04	----
20530C	5/16" x 1/8"	0.05	----
20531C	5/16" x 1/4"	0.05	----
20057C	3/8" x 1/8"	0.05	----
20058C	3/8" x 1/4"	0.06	----
20059C	3/8" x 3/8"	0.06	----
20062C	3/8" x 1/2"	0.08	----
20060C	1/2" x 1/4"	0.06	----
20061C	1/2" x 3/8"	0.08	----
20063C	1/2" x 1/2"	0.10	----

PQ68P

### SWIVEL MALE ELBOW

- Swivels for installation only.
- Not a live swivel



\* Global Thread

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20079C	1/8" x 1/8"	0.01	----
20535C*	1/8" x 1/4"	0.01	----
20517C*	3/16" x 1/4"	0.01	----
20080C*	5/32" x 1/8"	0.01	----
20077C*	5/32" x 1/4"	0.01	----
20049C*	5/32" x 10/32"	0.01	----
20078C	1/4" x 10-32	0.01	----
20081C	1/4" x 1/8"	0.02	----
20082C	1/4" x 1/4"	0.04	----
20086C	1/4" x 3/8"	0.06	----
20518C*	1/4" x 1/2"	0.07	----
20537C	5/16" x 1/8"	0.04	----
20538C	5/16" x 1/4"	0.04	----
20539C*	5/16" x 3/8"	0.06	----
20087C	3/8" x 1/8"	0.04	----
20083C	3/8" x 1/4"	0.08	----
20084C	3/8" x 3/8"	0.10	----
20088C	3/8" x 1/2"	0.12	----
20184C	1/2" x 1/4"	0.14	----
20085C	1/2" x 3/8"	0.16	----
20092C*	1/2" x 1/2"	0.18	----

PQ69PS

### LONG PATTERN MALE ELBOWS



PART #	TUBE O.D. X THREAD	APPROX. WT. LBS.	
20572C	1/4 X 1/8	0.03	----
20573C	1/4 X 1/4	0.05	----
20574C	1/4 X 3/8	0.06	----
20579C	3/8 X 1/4	0.09	----
20580C	3/8 X 3/8	0.12	----
20581C	3/8 X 1/2	0.14	----
20582C	1/2 X 1/4	0.16	----
20583C	1/2 X 3/8	0.18	----
20584C	1/2 X 1/2	0.20	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

### FEMALE SWIVEL ELBOWS



PART #	TUBE O.D. X FEMALE NPT	APPROX. WT. LBS.	
20089C	1/4 X 1/8	0.05	----
20090C	1/4 X 1/4	0.06	----
20591C	1/4 X 3/8	0.07	----
20091C	3/8 X 1/4	0.10	----
20595C	3/8 X 3/8	0.14	----
20596C	3/8 X 1/2	0.15	----
20597C	1/2 X 3/8	0.20	----
20598C	1/2 X 1/2	0.23	----

### 45° SWIVELS



PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20139C	1/4 X 1/8	0.04	----
20140C	1/4 X 1/4	0.05	----

### SWIVEL MALE RUN TEE

• Swivels for installation only.



\* Global Thread

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20160C*	1/8" x 1/8"	0.03	----
20833C*	1/8" x 1/4"	0.03	----
20835C*	5/32" x 10-32	0.03	----
20162C	1/4" x 1/8"	0.04	----
20163C	1/4" x 1/4"	0.04	----
20834C*	1/4" x 10-32	0.04	----
20099C	3/8" x 1/8"	0.06	----
20100C	3/8" x 1/4"	0.08	----
20165C	3/8" x 3/8"	0.10	----
20181C	3/8 x 1/2	0.12	----
20174C	1/2 x 1/4	0.12	----
20166C	1/2 x 3/8	0.14	----
20167C	1/2 x 1/2	0.16	----

PQ71PS

### SWIVEL MALE BRANCH TEE

• Swivels for installation only.

• Not a live swivel



\* Global Thread

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20103C*	1/8" x 1/8"	0.02	----
20519C*	1/8" x 1/4"	0.03	----
20109C*	5/32" x 1/8"	0.02	----
20135C*	5/32" x 1/4"	0.03	----
20104C*	5/32" x 10/32"	0.03	----
20830C*	3/16" x 1/8"	0.03	----
20105C	1/4" x 1/8"	0.04	----
20106C	1/4" x 1/4"	0.06	----
20831C*	1/4" x 10/32"	0.06	----
20121C	1/4" x 3/8"	0.08	----
20136C*	5/16" x 1/8"	0.04	----
20137C*	5/16" x 1/4"	0.05	----
20832C*	5/16" x 3/8"	0.06	----
20107C	3/8" x 1/4"	0.10	----
20108C	3/8" x 3/8"	0.12	----
20158C*	3/8 X 1/2	0.14	----
20138C*	1/2 X 1/4	0.14	----
20110C	1/2 X 3/8	0.16	----
20111C	1/2 X 1/2	0.21	----

PQ72PS

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

### BULKHEAD UNION



PART #	TUBE O.D.	APPROX. WT. LBS.	
20127C	1/4"	0.04	----
20128C	3/8"	0.06	----
20129C	1/2"	0.10	----

PQ82P

### BULKHEAD FEMALES



PART #	TUBE O.D. X THREAD	APPROX. WT. LBS.	
20170C	1/4 X 1/8	0.04	----
20171C	1/4 X 1/4	0.04	----
20172C	3/8 X 1/4	0.06	----
20173C	3/8 X 3/8	0.07	----
20175C	1/2 X 1/4	0.07	----
20176C	1/2 X 3/8	0.09	----
20179C	1/2 X 1/2	0.10	----

### SWIVEL "Y" CONNECTOR



▪ Swivels for installation only. ▪ Not a live swivel

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20187C	1/4 X 1/8	0.02	----
20557C	1/4" x 1/4"	0.02	----
20188C	3/8 X 1/4	0.04	----
20189C	3/8 X 3/8	0.04	----
20193C	3/8 X 1/2	0.07	----
20194C	1/2 X 3/8	0.06	----
20195C	1/2 X 1/2	0.09	----

PQ88PS

### IN-LINE NEEDLE VALVE



PART #	TUBE O.D.	APPROX. WT. LBS.	
20487C	1/4"	0.04	----
20488C	5/16"	0.05	----
20489C	3/8"	0.06	----

PQ310C

### RIGHT ANGLE FLOW CONTROL METER IN • Free flow out



▪ Marked w/V

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20727C	1/4 X 1/8	0.04	----
20728C	1/4" x 1/4"	0.04	----
20780C	3/8 X 1/4	0.06	----
20781C	3/8 X 3/8	0.06	----
20782C	1/2 X 1/2	0.10	----

JPQ

### RIGHT ANGLE FLOW CONTROL METER OUT • Free flow in



▪ Marked w/C

PART #	TUBE O.D. X MALE NPT	APPROX. WT. LBS.	
20785C	1/4 x 1/8	0.04	----
20786C	1/4 x 1/4	0.04	----
20787C	3/8 x 1/4	0.06	----
20788C	3/8 x 3/8	0.06	----
20789C	1/2 x 1/2	0.10	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

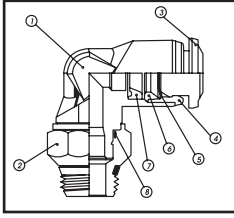


BRASS

# METRIC COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

### Technical Characteristics



PART #	DESCRIPTION	MATERIAL
PART 1	BODY	COMPOSITE
PART 2	BODY	NICKEL PLATED BRASS
PART 3	TUBE RELEASE	ACETAL RESIN
PART 4	RETAINER	NICKEL PLATED BRASS
PART 5	GRIPPER RING	STAINLESS STEEL
PART 6	SPACER	COMPOSITE
PART 7	THREAD PACKING	NBR 70
PART 8	O-RING	NBR 70
PART 9	THREAD SEAL	NBR70

### Operating Range

Pressure: 0 to 220 PSI (15 bar)

Vacuum: 0 to 29hg (-.99 bar)

### Temperature

-5° F to + 175° F (-20° C to + 80° C)

### Media

Compressed air.

Non-toxic fluids (water)

### Materials

The latest generation of composite material is used in the body construction in addition to nickel-plated brass on threaded components and stainless steel on the tube gripper.

### UNION



PART #	TUBE O.D. (MM)	
20600	4	----
20601	6	----
20602	8	----
20603	10	----
20604	12	----

### UNION TEE



PART #	TUBE O.D. (MM)	
20610	4	----
20862	5	----
20611	6	----
20612	8	----
20613	10	----
20614	12	----
20861	14	----

3104

### UNION ELBOW



PART #	TUBE O.D. (MM)	
20806	4	----
20660	6	----
20661	8	----
20807	10	----
20808	12	----
20740	14	----

3102

### MALE ADAPTER



PART #	TUBE OD (MM)	BSPT THREAD	
20630	4	1/8"	----
20631	4	1/4"	----
20632	6	1/8"	----
20633	6	1/4"	----
20634	8	1/4"	----
20635	8	3/8"	----
20636	10	1/4"	----
20637	10	3/8"	----
20801	12	1/4"	----
20638	12	3/8"	----

3175

NOTE: See page 102 for a complete line of male adapters with global thread.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# METRIC COMPOSITE BODY PUSH-IN FITTINGS

## BRASS FITTINGS

### SWIVEL ELBOW



PART #	TUBE OD (MM)	BSPT THREAD	
20690*	4	M5	----
20856*	4	1/8"	----
20855*	4	1/4"	----
20692*	5	M5	----
20857*	5	1/8"	----
20859*	6	M5	----
20642	6	1/8"	----
20803	6	1/4"	----
20698*	6	3/8"	----
20699*	6	1/2"	----
20711*	8	1/8"	----
20805	8	1/4"	----
20655	8	3/8"	----
20712*	8	1/2"	----
20656	10	1/4"	----
20657	10	3/8"	----
20713*	10	1/2"	----
20790	12	1/4"	----
20658	12	3/8"	----
20659	12	1/2"	----
20714*	14	3/8"	----
20854*	14	1/2"	----

- \* Global Thread
- BSPP Available

### SWIVEL BRANCH TEE



PART #	TUBE OD (MM)	BSPT THREAD	
20680*	4	1/8"	----
20860*	4	1/4"	----
20717*	5	1/8"	----
20682	6	1/8"	----
20683	6	1/4"	----
20809	8	1/8"	----
20684	8	1/4"	----
20685	8	3/8"	----
20686	10	1/4"	----
20687	10	3/8"	----
20810	10	1/2"	----
20688	12	3/8"	----
20689	12	1/2"	----
20718*	14	3/8"	----
20719*	14	1/2"	----

- \* Global Thread
- BSPP Available

### SWIVEL RUN TEE



PART #	TUBE OD (MM)	BSPT THREAD	
20670	4	1/8"	----
20720*	4	1/4"	----
20721*	5	1/8"	----
20672	6	1/8"	----
20673	6	1/4"	----
20811	8	1/8"	----
20674	8	1/4"	----
20675	8	3/8"	----
20676	10	1/4"	----
20677	10	3/8"	----
20678	12	3/8"	----
20679	12	1/2"	----

- \* Global Thread
- BSPP Available

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**METRIC COMPOSITE BODY PUSH-IN FITTINGS**

## BRASS FITTINGS

## UNION WYE



PART #	TUBE OD (MM)	
20813	4	----
20814	6	----
20815	8	----
20746	10	----
20802	12	----

## SWIVEL MALE WYE



PART #	TUBE OD (MM)	GLOBAL THREAD	
20816	4	1/8"	----
20821*	4	1/4"	----
20817*	6	1/8"	----
20818	6	1/4"	----
20819*	8	1/8"	----
20820*	8	1/4"	----
20822*	8	3/8"	----
20823*	10	1/4"	----
20824*	10	3/8"	----
20825*	10	1/2"	----
20826*	12	3/8"	----
20827*	12	1/2"	----

- \* Global Thread
- BSPP Available

Also available:

- 45° elbow swivel
- 4 position Y
- Manifolds
- Extended swivel elbows
- Bulkhead union
- Plug-in elbows and tees

A man's ancestry is a positive property to him.

- Edward Bulwer-Lytton

## D.O.T. PUSH-IN TUBE FITTINGS



Meets D.O.T. FMVSS 571.106 SAE J1131 Air Brake System Require-

### Benefits for Cost Savings & Engineering Project

- **Fast assembly:** No tools required. Simply push tubing in. Saves up to 75% of assembly time compared to standard air compression fittings. No loose parts to handle.
- **Fast disconnect:** Hold the collet collar with two fingers and pull out tube. No tools required.
- **Reusable:** Can be connected and disconnected several times.
- **Reliable sealing:** Using recommended tubing, full sealing is guaranteed.
- **Versatility:** Buna N O'ring standard. Viton and others available per request. Secure tube retention. Pulling on tubing only serves to tighten the connection.
- **Pre-Applied Teflon®** based pipe sealant on all male pipe threads, saving customer additional labor.
- **Full Flow Design,** provides more flow area than con-

DOT Fittings are constructed with an all brass captive eyelet which allows for maximum flow. The brass captive eyelet with extended length is floating and has a machined top end radius for easy installation of tubing. All male threads have a pre-applied Teflon® based pipe sealant to provide for easy assembly and leak proof seal.

### Materials:

Brass  
"O" Ring: Buna - Nitrile (90 Durometer)  
EP (Ethylene Propylene)

### Working Pressures & Temperature Ranges

Vacuum to 150 PSI  
-40°F to 200° F ( -40°C to +93°C )

Dimension data can change without notice. Please check when dimensions are critical.

**D.O.T. PUSH-IN**

## BRASS FITTINGS

## PLUG



AQ59DOT

PART #	TUBE O.D.	APPROX. WT. LBS.	
595320	5/32"	0.01	----
590400	1/4"	0.02	----
590600	3/8"	0.02	----
590800	1/2"	0.04	----

1829 DQ59DOT 639PMT

## UNION

AQ62DOT  
DQ62

PART #	TUBE O.D.	APPROX. WT. LBS.	
620532	5/32"	0.06	----
620400	1/4"	0.06	----
620600	3/8"	0.13	----
620604	3/8" x 1/4"	0.15	----
620800	1/2"	0.19	----
621000	5/8"	0.30	----
621200	3/4"	0.44	----

AQ62DOT 62PMT 1862 DQ62DOT

## UNION TEE

AQ64DOT  
DQ64

PART #	TUBE O.D.	APPROX. WT. LBS.	
640400	1/4"	0.09	----
640600	3/8"	0.16	----
640800	1/2"	0.25	----
641000	5/8"	0.32	----
641200	3/4"	0.36	----

AQ64DOT 164 PMT 1864 DQ64DOT

## UNION ELBOW

AQ65DOT  
DQ65

PART #	TUBE O.D.	APPROX. WT. LBS.	
655320	5/32"	0.03	----
650400	1/4"	0.06	----
650600	3/8"	0.12	----
650800	1/2"	0.18	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. PUSH-IN

## BRASS FITTINGS

### FEMALE CONNECTOR



AQ66DOT  
DQ66

PART #	TUBE O.D. X FEMALE NPTF	APPROX. WT. LBS.	
660402	1/4" x 1/8"	0.06	----
660404	1/4" x 1/4"	0.10	----
660602	3/8" x 1/8"	0.11	----
660604	3/8" x 1/4"	0.11	----
660606	3/8" x 3/8"	0.17	----
660804	1/2" x 1/4"	0.14	----
660806	1/2" x 3/8"	0.16	----
660808	1/2" x 1/2"	0.25	----

AQ66DOT 66PMT 1866 DQ66DOT

### MALE CONNECTOR



AQ68DOT  
DQ68

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
685320	5/32" x 10/32"	0.02	----
685321	5/32" x 1/16"	0.02	----
685322	5/32" x 1/8"	0.02	----
680302	3/16" x 1/8"	0.02	----
680421	1/4" x 1/16"	0.02	----
680402	1/4" x 1/8"	0.03	----
680404	1/4" x 1/4"	0.04	----
680406	1/4" x 3/8"	0.07	----
680602	3/8" x 1/8"	0.06	----
680604	3/8" x 1/4"	0.07	----
680606	3/8" x 3/8"	0.06	----
680608	3/8" x 1/2"	0.13	----
680804	1/2" x 1/4"	0.11	----
680806	1/2" x 3/8"	0.12	----
680808	1/2" x 1/2"	0.14	----
681006	5/8" x 3/8"	0.18	----
681008	5/8" x 1/2"	0.18	----
681208	3/4" x 1/2"	0.20	----
681212	3/4" x 3/4"	0.20	----

AQ68DOT 68PM 1868 DQ68DOT 68PMT

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**D.O.T. PUSH-IN**

## BRASS FITTINGS

## MALE ELBOW



Forged

AQ69DOT  
DQ69

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
695302	5/32" x 1/16"	0.03	----
695322	5/32" x 1/8"	0.03	----
690302	3/16" x 1/8"	0.03	----
690402	1/4" x 1/8"	0.08	----
690404	1/4" x 1/4"	0.06	----
690406	1/4" x 3/8"	0.11	----
690602	3/8" x 1/8"	0.08	----
690604	3/8" x 1/4"	0.09	----
690606	3/8" x 3/8"	0.11	----
690608	3/8" x 1/2"	0.20	----
690804	1/2" x 1/4"	0.22	----
690806	1/2" x 3/8"	0.22	----
690808	1/2" x 1/2"	0.24	----
691006	5/8" x 3/8"	0.30	----
691008	5/8" x 1/2"	0.32	----
691208	3/4" x 1/2"	0.32	----
691212	3/4" x 3/4"	0.34	----

AQ69DOT 169PMTNS 1869 DQ69DOT

## MALE SWIVEL ELBOW



Forged

AQ62DOTS  
DQ69S

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
695322S	5/32" x 1/8"	0.07	----
690402S	1/4" x 1/8"	0.06	----
690404S	1/4" x 1/4"	0.10	----
690406S	1/4" x 3/8"	0.10	----
690602S	3/8" x 1/8"	0.10	----
690604S	3/8" x 1/4"	0.11	----
690606S	3/8" x 3/8"	0.12	----
690608S	3/8" x 1/2"	0.20	----
690804S	1/2" x 1/4"	0.16	----
690806S	1/2" x 3/8"	0.18	----
690808S	1/2" x 1/2"	0.26	----
691006S	5/8" x 3/8"	0.28	----
691008S	5/8" x 1/2"	0.30	----
691208S	3/4" x 1/2"	0.50	----
691212S	3/4" x 3/4"	0.56	----

AQ69DOTS 169PMT 1869 DQ69DOTS

*A mind becomes a detriment when it acquires more intelligence than its integrity can handle.*

*- Cullen Hightower*

# D.O.T. PUSH-IN

## BRASS FITTINGS

### FEMALE ELBOW



Forged

AQ70DOTS  
DQ70

PART #	TUBE O.D. X FEMALE NPTF	APPROX. WT. LBS.	
700402	1/4" x 1/8"	0.06	----
700404	1/4" x 1/4"	0.10	----
700406	1/4" x 3/8"	0.16	----
700602	3/8" x 1/8"	0.15	----
700604	3/8" x 1/4"	0.12	----
700606	3/8" x 3/8"	0.17	----
700806	1/2" x 3/8"	0.26	----
700808	1/2" x 1/2"	0.30	----

AQ70DOTS 1870 DQ70DOTS 170PMTNS

### FEMALE SWIVEL ELBOW



AQ70DOTS

PART #	TUBE O.D. X FEMALE NPTF	
700404S	1/4" x 1/4"	----

### MALE RUN TEE



Forged

AQ71DOT  
DQ71

PART #	TUBE O.D. X MALE NPTF (1 X 3) X 2	APPROX. WT. LBS.	
710402	1/4" x 1/8"	0.06	----
71040604	(1/4" x 3/8") x 1/4"	0.20	----
710404	1/4" x 1/4"	0.08	----
710604	3/8" x 1/4"	0.20	----
71060404	(3/8" x 1/4") x 1/4"	0.20	----
710606	3/8" x 3/8"	0.17	----
71060406	(3/8" x 1/4") x 3/8"	0.20	----
710608	3/8" x 1/2"	0.14	----
710806	1/2" x 3/8"	0.28	----

AQ71DOT 171PMTNS 1871 DQ71DOT

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**D.O.T. PUSH-IN**

## BRASS FITTINGS

**MALE SWIVEL RUN TEE**

AQ71DOTS  
DQ71S Forged

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
710402S	1/4" x 1/8"	0.09	----
710404S	1/4" x 1/4"	0.11	----
710604S	3/8" x 1/4"	0.15	----
710606S	3/8" x 3/8"	0.14	----
710804S	1/2" x 1/4"	0.24	----
710806S	1/2" x 3/8"	0.24	----
710808S	1/2" x 1/2"	0.30	----

AQ71DOTS 171PMT 1871 DQ71DOTS

**MALE 45° ELBOW**

AQ54DOT  
DQ54 Forged

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
540402	1/4" x 1/8"	0.06	----
540404	1/4" x 1/4"	0.06	----
540602	3/8" x 1/8"	0.08	----
540604	3/8" x 1/4"	0.09	----
540606	3/8" x 3/8"	0.11	----
540608	3/8" x 1/2"	0.15	----
540804	1/2" x 1/4"	0.13	----
540806	1/2" x 3/8"	0.16	----
540808	1/2" x 1/2"	0.18	----
541006	5/8" x 3/8"	0.22	----
541008	5/8" x 1/2"	0.21	----
541208	3/4" x 1/2"	0.28	----
541212	3/4" x 3/4"	0.32	----

AQ54DOT 179MTNS 1880 DQ54DOT

**MALE 45° SWIVEL ELBOW**

AQ54DOTS  
DQ54S

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
540402S	1/4" x 1/8"	0.06	----
540404S	1/4" x 1/4"	0.09	----
540602S	3/8" x 1/8"	0.10	----
540604S	3/8" x 1/4"	0.11	----
540606S	3/8" x 3/8"	0.13	----
540804S	1/2" x 1/4"	0.14	----
540806S	1/2" x 3/8"	0.16	----
540808S	1/2" x 1/2"	0.18	----
541008S	5/8" x 1/2"	0.24	----

AQ54DOTS 179PMT 1880 DQ54DOTS

**MALE BRANCH TEE**

AQ72DOT  
DQ72 Forged

PART #	TUBE O.D. X MALE NPTF (1 X 2) X 3	APPROX. WT. LBS.	
720302	3/16" x 1/8"	0.07	----
720402	1/4" x 1/8"	0.10	----
720404	1/4" x 1/4"	0.10	----
720604	3/8" x 1/4"	0.14	----
72060404	(3/8" x 1/4") x 1/4"	0.20	----
720606	3/8" x 3/8"	0.15	----
720804	1/2" x 1/4"	0.20	----
720806	1/2" x 3/8"	0.24	----
720808	1/2" x 1/2"	0.32	----
72100808	(5/8" x 1/2") x 1/2"	0.20	----

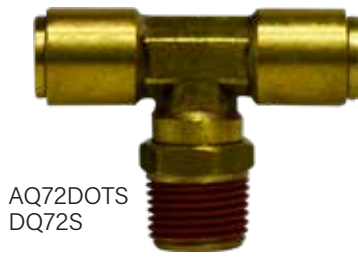
AQ72DOT 172PMTNS 1872 DQ72DOT

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. PUSH-IN

## BRASS FITTINGS

### MALE SWIVEL BRANCH TEE



AQ72DOTS  
DQ72S

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
720402S	1/4" x 1/8"	0.12	----
720404S	1/4" x 1/4"	0.14	----
720602S	3/8" x 1/8"	0.19	----
720604S	3/8" x 1/4"	0.15	----
720606S	3/8" x 3/8"	0.17	----
720804S	1/2" x 1/4"	0.30	----
720806S	1/2" x 3/8"	0.34	----
720808S	1/2" x 1/2"	0.22	----

AQ72DOTS 172PMT 1872 DQ72DOTS

### FEMALE BRANCH TEE



AQ77DOT  
DQ77

#### (RUN) BRANCH

PART #	(1 & 2) X 3	
770402	1/4" x 1/8"	----
770404	1/4" x 1/4"	----
770604	3/8" x 1/4"	----

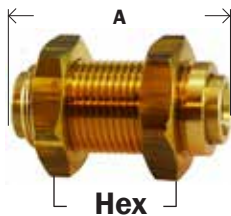
### GLADHAND BULKHEAD CONNECTOR



#### TUBE OD X MALE NPTF

PART #	SIZE	
830808	1/2" x 1/2"	----

### BULKHEAD UNION



AQ82DOT  
DQ82

PART #	TUBE O.D.	APPROX. WT. LBS.	
820400	1/4"	0.16	----
820600	3/8"	0.21	----
820800	1/2"	0.14	----
821000	5/8"	0.30	----

AQ82DOT 62PMTBH 1874 DQ82DOT

### FEMALE BULKHEAD UNION



AQ86DOT  
DQ86

PART #	TUBE O.D. X FEMALE NPTF	APPROX. WT. LBS.	
860402	1/4" x 1/8"	0.08	----
860404	1/4" x 1/4"	0.10	----
860604	3/8" x 1/4"	0.14	----
860606	3/8" x 3/8"	0.31	----
860808	1/2" x 1/2"	0.32	----

AQ86DOT 1873 DQ86DOT 66PMTBH

▪ Jam nuts not available separately

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# COMPOSITE BODY D.O.T. PUSH-IN

## BRASS FITTINGS

# COMPOSITE BODY DOT AIRBRAKE FITTINGS

## WARNING

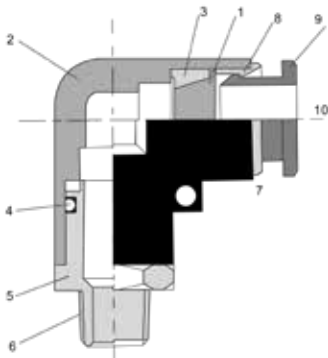
- Composite DOT push-to-connect fittings are designed only for use in applications where air is utilized as an operating fluid.
  - Fittings must be used in accordance with manufacturer and industry specifications.
  - They are not intended for use in environments exceeding 145psi or 140 degrees F.
  - The Department of Transportation FMVSS 49CFR571-106 prohibits use of this type of fitting for connections between towed and towing vehicles or between a driveshaft and chassis.
  - Using Composite DOT fittings in a manner inconsistent with manufacturer specifications may result in serious injury or property damage.
  - Under no circumstances shall the supplier be liable to buyer for any consequential or incidental damages of any nature whatsoever arising from nonconformity of goods, defective goods, or delay in shipment or any other breach by seller.
- Please feel free to email [warning@compdotfitting.com](mailto:warning@compdotfitting.com) with any questions or concerns.



- One touch connection reduces installation time and cost.
- Rugged ultraviolet and vibration resistant composite body.
- Various shapes and configurations to meet vehicle applications and make installations easier.

## SPECIFICATIONS FOR FMVSS (D.O.T.) AND SAE COMPLIANT FITTINGS

Operating Fluid	Air						
Max. Operating Pressure	145psi (1.0MPa)						
Proof Pressure	Size	5/32"	1/4"	3/8"	1/2"	5/8"	3/4"
	At 75°F (24°C)	1200psi	1200psi	1400psi	950psi	900psi	800psi
	At 200 °F (93°C)	450psi (3.1MPa)					
Recommended Fluid and Ambient Temperature*	-40°F to 140°F (-40°C to 60°C)						
Leak Rate at -40°F (-40°C)	7 Ncm <sup>3</sup> /min. or less						
Thread	Thread Portion	ANSI/ASME B1.20.1, 1983 R1992					
	Nut	JIS B 0208 (Unified fine thread) ISO 263					
Thread Sealant	Fluorine/ Acrylic						
Applicable Standards	D.O.T. FMVSS 49 CFR 571.106, SAE J2494-3						
Applicable Tubing	Tubing conforming to both SAE J844 and D.O.T. FMVSS 49 CFR 571.106. Material: Nylon12						
Tube O.D.	5/32", 1/4", 3/8", 1/2", 5/8", 3/4"						



1. Chuck	Stainless steel or Brass
2. Body	Polybutylene Terephthalate (PBT), Brass
3/4. Tube seal, O-Ring	Buna-N, Nitrile Rubber
5. Stud	Brass
6. Sealant	Flourine/ Acrylic
7. Guide	Stainless Steel or Polyacetal (Acetal)
8. Stabilization Ring	Stainless Steel
9. Release Button	Polyacetal, POM (Acetal)
10. Tube support	Stainless Steel/ Brass

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# COMPOSITE BODY D.O.T. PUSH-IN

## BRASS FITTINGS

### STRAIGHT UNION



PART #	TUBE OD (INCH)	APPROX. WT. LBS.	
620532C	5/32	0.01	----
620400C	1/4	0.01	----
620600C	3/8	0.03	----
620800C	1/2	0.05	----
621000C	5/8	0.08	----

### UNION TEE



PART #	TUBE OD (INCH)	APPROX. WT. LBS.	
645320C	5/32	0.02	----
640400C	1/4	0.02	----
640600C	3/8	0.05	----
640800C	1/2	0.07	----
641000C	5/8	0.13	----

### UNION 90° ELBOW



PART #	TUBE OD (INCH)	APPROX. WT. LBS.	
655320C	5/32	0.01	----
650400C	1/4	0.02	----
650600C	3/8	0.04	----
650800C	1/2	0.05	----

### FEMALE CONNECTOR



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
665302C	5/32	1/8-27	0.04	----
665304C	5/32	1/4-18	0.06	----
660402C	1/4	1/8-27	0.04	----
660404C	1/4	1/4-18	0.06	----
660406C	1/4	3/8-18	0.10	----
660602C	3/8	1/8-27	0.07	----
660604C	3/8	1/4-18	0.07	----
660606C	3/8	3/8-18	0.11	----
660608C	3/8	1/2-14	0.12	----
660802C	1/2	1/8-27	0.11	----
660804C	1/2	1/4-18	0.13	----
660806C	1/2	3/8-18	0.12	----
660808C	1/2	1/2-14	0.13	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**COMPOSITE BODY D.O.T. PUSH-IN**

## BRASS FITTINGS

## STRAIGHT MALE CONNECTOR



PART #	APP. TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
685301C	5/32	1/16-28	0.02	----
685302C	5/32	1/8-27	0.02	----
685304C	5/32	1/4-27	0.03	----
680402C	1/4	1/8-27	0.02	----
680404C	1/4	1/4-18	0.03	----
680406C	1/4	3/8-18	0.05	----
680602C	3/8	1/8-27	0.05	----
680604C	3/8	1/4-18	0.06	----
680606C	3/8	3/8-18	0.06	----
680608C	3/8	1/2-14	0.09	----
680804C	1/2	1/4-18	0.09	----
680806C	1/2	3/8-18	0.09	----
680808C	1/2	1/2-14	0.09	----
681006C	5/8	3/8-18	0.15	----
681008C	5/8	1/2-14	0.13	----
681208C	3/4	1/2-14	0.38	----

## 90° MALE ELBOW

- Fixed



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
695322SC	5/32	1/8-27	0.03	----
690402SC	1/4	1/8-27	0.03	----
690404SC	1/4	1/4-18	0.04	----
690406SC	1/4	3/8-18	0.07	----
690602SC	3/8	1/8-27	0.07	----
690604SC	3/8	1/4-18	0.06	----
690606SC	3/8	3/8-18	0.08	----
690608SC	3/8	1/2-14	0.14	----
690804SC	1/2	1/4-18	0.07	----
690806SC	1/2	3/8-18	0.09	----
690808SC	1/2	1/2-14	0.14	----
691006SC	5/8	3/8-18	0.14	----
691008SC	5/8	1/2-14	0.18	----
691208SC	3/4	1/2-14	0.26	----

## 90° FEMALE ELBOW



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
705302C	5/32	1/8-27	0.03	----
705304C	5/32	1/4-18	0.05	----
700402SC	1/4	1/8-27	0.03	----
700404SC	1/4	1/4-18	0.05	----
700406SC	1/4	3/8-18	0.08	----
700602C	3/8	1/8-27	0.05	----
700604SC	3/8	1/4-18	0.07	----
700606SC	3/8	3/8-18	0.09	----
700608SC	3/8	1/2-14	0.10	----
700804C	1/2	1/4-18	0.08	----
700806SC	1/2	3/8-18	0.10	----
700808SC	1/2	1/2-14	0.11	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# COMPOSITE BODY D.O.T. PUSH-IN

## BRASS FITTINGS

### MALE RUN TEE

• Fixed



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
715301C	5/32	1/16	0.05	----
715302C	5/32	1/8	0.03	----
715304C	5/32	1/4	0.04	----
710402SC	1/4	1/8-27	0.04	----
710404SC	1/4	1/4-18	0.05	----
710604SC	3/8	1/4-18	0.08	----
710606SC	3/8	3/8-18	0.10	----
710608SC	3/8	1/2-14	0.15	----
710804C	1/2	1/4-8	0.09	----
710806SC	1/2	3/8-18	0.11	----
710808C	1/2	1/2-14	0.17	----

### MALE BRANCH TEE

• Fixed



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
725301C	5/32	1/16	0.03	----
725302C	5/32	1/8	0.03	----
725304C	5/32	1/4	0.05	----
720402SC	1/4	1/8-27	0.04	----
720404SC	1/4	1/4-18	0.05	----
720406SC	1/4	3/8-18	0.08	----
720604SC	3/8	1/4-18	0.08	----
720606SC	3/8	3/8-18	0.10	----
720608C	3/8	1/2-14	0.15	----
720804C	1/2	1/4-18	0.09	----
720806SC	1/2	3/8-18	0.11	----
720808SC	1/2	1/2-14	0.17	----
721006C	5/8	3/8	0.18	----
721008C	5/8	1/2	0.21	----

### FEMALE BRANCH TEE



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
770402C	1/4	1/8-27	0.06	----
770404C	1/4	1/4-18	0.08	----
770604C	3/8	1/4-18	0.08	----
770806C	1/2	3/8	0.13	----
771004C	5/8	1/4	0.21	----

### 45° MALE ELBOW

• Fixed



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
545302C	5/32	1/8-27	0.03	----
540402SC	1/4	1/8-27	0.03	----
540404SC	1/4	1/4-18	0.04	----
540602SC	3/8	1/8-27	0.06	----
540604SC	3/8	1/4-18	0.06	----
540606SC	3/8	3/8-18	0.08	----
540608SC	3/8	1/2-14	0.13	----
540802C	1/2	1/8-27	0.08	----
540804SC	1/2	1/4-18	0.08	----
540806SC	1/2	3/8-18	0.10	----
540808SC	1/2	1/2-14	0.15	----
541006SC	5/8	3/8-18	0.14	----
541008SC	5/8	1/2-14	0.17	----
541208SC	3/4	1/2-14	0.26	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**COMPOSITE BODY D.O.T. PUSH-IN**

## BRASS FITTINGS

## UNION "Y"



PART #	A&B TUBE OD (INCH)	C TUBE OD (INCH)	APPROX. WT. LBS.	
620553C	1/4	1/4	0.03	----
620409C	1/4	3/8	0.03	----
620555C	3/8	3/8	0.05	----
620559C	3/8	1/4	0.07	----
620557C	1/2	1/2	0.08	----

## MALE BRANCH "Y"



PART #	TUBE OD (INCH)	THREAD NPT	APPROX. WT. LBS.	
880402C	1/4	1/8	0.05	----
880404C	1/4	1/4	0.06	----
880406C	1/4	3/8	0.09	----
620604C	3/8	1/4-18	0.09	----
620606C	3/8	3/8-18	0.12	----
620806C	1/2	3/8-18	0.13	----
620808C	1/2	1/2-14	0.15	----

## BULKHEAD UNION



PART #	TUBE OD (INCH)	THREAD (UNF)	APPROX. WT. LBS.	
825320C	5/32	1/2-20	0.07	----
820400C	1/4	9/16-18	0.07	----
820600C	3/8	7/8-14	0.19	----
820800C	1/2	1-12	0.26	----
821000C	5/8	1 1/8-12	0.42	----

## FEMALE BULKHEAD CONNECTOR



PART #	APP. TUBE OD (INCH)	THREAD NPT	T (UNF)	APPROX. WT. LBS.	
865304C	5/32	1/4-18	1/2-20	0.08	----
860402C	1/4	1/8-27	9/16-18	0.01	----
860404C	1/4	1/4-18	9/16-18	0.08	----
860604C	3/8	1/4-18	7/8-14	0.20	----
860606C	3/8	3/8-18	7/8-14	0.20	----
860806C	1/2	3/8-18	1-12	0.26	----
860808C	1/2	1/2-14	1-12	0.27	----



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. AIR BRAKE - NYLON TUBING



Tube O.D	1/4	3/8	1/2	5/8	3/4
Thread Size-B	7/16-24	17/32-24	11/16-20	13/16-18	1-18

**-Typical Application**

Air brake systems except where temperatures exceed +200°F or where battery acid can drip on tubing.

**-Pressure**

Maximum operating pressure of 150 PSI.

**-Vibration**

Fair resistance.

**-Temperature Range**

-40°F to +200°F (-40°C to +93°C).

**-Material**

Brass

**-Used With**

NT Nylon Tubing - SAE J844 Type A and B.

**- Tolerance**

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical

**-Advantages**

Easy to assemble (no tube preparation or flaring required.) Built in tube support. Fittings utilize a ribbed sleeve for compression and positive grip. May be used with copper tubing by replacing nut, sleeve and insert with long nut and spherical sleeve. Insert should be removed for copper tubing use.

**-Conformance**

Meets specifications and standards of SAE and DOT FMVSS 571,106.

**-Assembly Instructions**

- 1- Cut tubing to desired length.
- 2-Slide nut and then sleeve on tubing. Threaded end of nut "A" must face toward fitting body.
- 3-Insert tubing into the preassembled fitting. Be sure tubing is bottomed in fitting.
- 4- Tighten nut to required torque as indicated on chart.

**Disassembling:** Remove nut and pull tubing out of fitting body. Insert will remain in tubing.

**Reassembly:** Push tubing and insert into fitting body until it bottoms. Thread nut onto fitting body

Tube Size	Additional Number of Turns from Hand-Tight
1/4	3
3/8, 1/2	4
5/8, 3/4	3-1/2


**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**D.O.T. AIR BRAKE - NYLON TUBING**

## BRASS FITTINGS

**SLEEVE**

SAE# 100115

60NA  
NT60

PART #	TUBE O.D.	APPROX. WT. LBS.	
38000	3/16"		----
38001	1/4"	0.01	----
38002	3/8"	0.01	----
38003	1/2"	0.01	----
38004	5/8"	0.01	----
38005	3/4"	0.01	----

60NAB 60NTA 1460

**NUT**

SAE# 100110

62NA  
NT61

PART #	TUBE O.D.	APPROX. WT. LBS.	
38009	3/16"		----
38010	1/4"	0.02	----
38011	3/8"	0.03	----
38012	1/2"	0.05	----
38013	5/8"	0.06	----
38014	3/4"	0.09	----

61NAB 61NTA 1461

**UNION**

SAE# 100101BA

62NA  
NT62

PART #	TUBE O.D.	APPROX. WT. LBS.	
38018	3/16"		----
38019	1/4"	0.07	----
38020	3/8"	0.11	----
38021	1/2"	0.20	----
38022	5/8"	0.25	----
38023	3/4"	0.40	----

62NAB 62NTA 1462

**BULKHEAD UNION**62NABH  
NT62BH

PART #	TUBE O.D.	APPROX. WT. LBS.	
38028	1/4"	0.11	----
38029	3/8"	0.16	----
38030	1/2"	0.26	----

62NBH 1474 475

**STAINLESS STEEL INSERT**

• 300 SERIES STAINLESS

• For SAE# J844 TUBING

AQ71DOTS  
DQ71S

PART #	TUBE O.D.	APPROX. WT. LBS.	
38035	1/4"	0.01	----
38036	3/8"	0.01	----
38037	1/2"	0.01	----
38038	5/8"	0.01	----
38039	3/4"	0.01	----

59A 63NTA

**BRASS INSERT**AQ71DOTS  
DQ71S

PART #	TUBE O.D.	APPROX. WT. LBS.	
38040	1/4"	0.01	----
38041	3/8"	0.01	----
38042	1/2"	0.01	----
38043	5/8"	0.01	----
38048	3/4"	0.02	----

1484 463

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. AIR BRAKE - NYLON TUBING

## BRASS FITTINGS

### TEE

SAE# 100401BA



64NA  
NT64

PART #	TUBE O.D.	APPROX. WT. LBS.	
38044	1/4"	0.12	----
38045	3/8"	0.19	----
38046	1/2"	0.36	----
38047	5/8"	0.48	----

64NAB 264NTA 1464

### REDUCING BRANCH TEE



PART #	TUBE O.D. (1&2) X 3	APPROX. WT. LBS.	
38049	3/8" x 1/4"	0.24	----
38057	1/2" x 3/8"	0.30	----

### ELBOW

SAE# 100201BA



65NA  
NT65

PART #	TUBE O.D.	APPROX. WT. LBS.	
38052	1/4"	0.09	----
38053	3/8"	0.13	----
38054	1/2"	0.15	----
38055	5/8"	0.36	----

65NAB 265NTA 1465

### FEMALE ADAPTER

SAE# 100103BA



66NA  
NT66

PART #	TUBE O.D. X FEMALE NPT	APPROX. WT. LBS.	
38060	1/4" x 1/8"	0.06	----
38061	1/4" x 1/4"	0.08	----
38062	3/8" x 1/8"	0.07	----
38063	3/8" x 1/4"	0.10	----
38064	3/8" x 3/8"	0.14	----
38065	1/2" x 3/8"	0.16	----
38066	1/2" x 1/2"	0.20	----
38067	5/8" x 3/8"	0.28	----
38068	5/8" x 1/2"	0.28	----
38059	3/4" x 1/2"	0.31	----

66NAB 66NTA 1466 66NBH

If you watch a game, it's fun. If you play it, it's recreation.  
If you work at it, it's golf.

- Bob Hope

Dimension data can change without notice. Please check when dimensions are critical.

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**D.O.T. AIR BRAKE - NYLON TUBING****BRASS FITTINGS****MALE ADAPTER**

SAE# 100102BA

68NA  
NT68VS

• More sizes available

**SWIVEL MALE ADAPTER**

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38072	1/4" x 1/16"	0.05	----
38073	1/4" x 1/8"	0.05	----
38074	1/4" x 1/4"	0.06	----
38075	1/4" x 3/8"	0.08	----
38076	3/8" x 1/8"	0.07	----
38077	3/8" x 1/4"	0.08	----
38078	3/8" x 3/8"	0.10	----
38079	3/8" x 1/2"	0.14	----
38080	1/2" x 1/4"	0.13	----
38081	1/2" x 3/8"	0.14	----
38082	1/2" x 1/2"	0.18	----
38087	1/2" x 3/4"	0.23	----
38083	5/8" x 3/8"	0.17	----
38084	5/8" x 1/2"	0.21	----
38088	5/8" x 3/4"	0.25	----
38085	3/4" x 1/2"	0.28	----
38086	3/4" x 3/4"	0.30	----

68NAB 68NTA 1468

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38078S	3/8" x 3/8"	0.18	----
38081S	1/2" x 3/8"	0.22	----

**MALE ELBOW**

SAE# 100202BA

69NA  
NT69VS

• More sizes available

**SWIVEL MALE ELBOW**

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38091	1/4" x 1/8"	0.06	----
38092	1/4" x 1/4"	0.08	----
38093	1/4" x 3/8"	0.13	----
38094	3/8" x 1/8"	0.09	----
38095	3/8" x 1/4"	0.11	----
38090	3/8" x 1/4" LONG	0.14	----
38101	3/8" x 3/8"	0.14	----
38102	3/8" x 1/2"	0.20	----
38103	1/2" x 1/4"	0.16	----
38104	1/2" x 3/8"	0.20	----
38109	1/2" x 3/8" LONG	0.26	----
38105	1/2" x 1/2"	0.29	----
38106	5/8" x 3/8"	0.26	----
38107	5/8" x 1/2"	0.32	----
38110	5/8" x 3/4"	0.40	----
38108	3/4" x 1/2"	0.43	----
38111	3/4" x 3/4"	0.51	----

269NTA 1469

PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38101S	3/8" x 3/8"	0.28	----
38104S	1/2" x 3/8"	0.32	----

**FEMALE ELBOW**

SAE# 100203BA

70NA  
NT70

PART #	TUBE O.D. X FEMALE NPTF	APPROX. WT. LBS.	
38113	1/4" x 1/8"	0.08	----
38114	1/4" x 1/4"	0.12	----
38115	3/8" x 1/8"	0.14	----
38116	3/8" x 1/4"	0.10	----
38117	3/8" x 3/8"	0.12	----
38118	1/2" x 3/8"	0.23	----
38119	1/2" x 1/2"	0.36	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. AIR BRAKE - NYLON TUBING

## BRASS FITTINGS

### MALE RUN TEE

SAE# 100424BA

1



71NA  
NT71VS

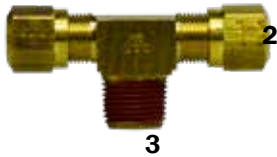
PART #	TUBE O.D. X MALE NPTF X TUBE O.D. 1X2X3	APPROX. WT. LBS.	
38125	1/4" x 1/8" x 1/4"	0.10	----
38126	1/4" x 1/4" x 1/4"	0.13	----
38124	3/8" x 1/4" x 1/4"	0.14	----
38127	3/8" x 1/4" x 3/8"	0.17	----
38128	3/8" x 3/8" x 3/8"	0.20	----
38129	1/2" x 3/8" x 1/2"	0.30	----

71NAB 271NTA 1471

### MALE BRANCH TEE

SAE# 100425BA

1



72NA  
NT72VS

PART #	TUBE O.D. X TUBE O.D. X MALE NPTF 1X2X3	APPROX. WT. LBS.	
38136	1/4" x 1/4" x 1/8"	0.10	----
38137	1/4" x 1/4" x 1/4"	0.13	----
38138	3/8" x 3/8" x 1/8"	0.14	----
38132	3/8" x 1/4" x 1/4"	0.15	----
38139	3/8" x 3/8" x 1/4"	0.17	----
38133	1/2" x 1/2" x 1/4"	0.26	----
38140	3/8" x 3/8" x 3/8"	0.21	----
38134	1/2" x 3/8" x 3/8"	0.26	----
38141	1/2" x 1/2" x 3/8"	0.30	----
38142	1/2" x 1/2" x 1/2"	0.37	----
38143	5/8" x 5/8" x 1/2"	0.44	----

72NAB 272NTA 1472

### FEMALE BRANCH TEE

1



PART #	TUBE O.D. X TUBE O.D. X FEMALE NPTF 1X2X3	APPROX. WT. LBS.	
38144	3/8" x 3/8" x 1/4"	0.21	----
38146	5/8" x 5/8" x 1/4"	0.48	----

### 45° ELBOW

SAE# 100302BA

6945NA  
NT6945VS



PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38148	1/4" x 1/8"	0.06	----
38149	1/4" x 1/4"	0.08	----
38150	3/8" x 1/8"	0.09	----
38151	3/8" x 1/4"	0.11	----
38152	3/8" x 3/8"	0.14	----
38153	3/8" x 1/2"	0.24	----
38157	1/2" x 1/4"	0.18	----
38154	1/2" x 3/8"	0.19	----
38155	1/2" x 1/2"	0.25	----
38156	5/8" x 1/2"	0.30	----
38158	3/4" x 1/2"	0.38	----

6945NAB 279NTA 1480

### SWIVEL 45° ELBOW



PART #	TUBE O.D. X MALE NPTF	APPROX. WT. LBS.	
38152S	3/8" x 3/8"	0.20	----
38154S	1/2" x 3/8"	0.24	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**D.O.T. AIR BRAKE - COPPER TUBING**

## BRASS FITTINGS

**SLEEVE**

SAE# 120115BA

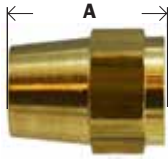
60AB  
AB60

PART #	TUBE O.D.	A	APPROX. WT. LBS.	
38161	1/4"	0.25	0.01	----
38162	3/8"	0.31	0.02	----
38163	1/2"	0.38	0.02	----
38164	5/8"	0.44	0.02	----
38165	3/4"	0.50	0.04	----

60AB 1360

**NUT**

SAE# 120111BA

61AB  
AB61

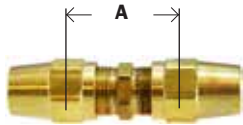
Hex

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
38170	1/4"	0.75	0.56	0.02	----
38171	3/8"	1.13	0.62	0.04	----
38172	1/2"	1.25	0.81	0.08	----
38173	5/8"	1.38	0.94	0.12	----
38174	3/4"	1.56	1.12	0.18	----

20961 61AB 1361

**UNION**

SAE# 120101BA

62AB  
AB62

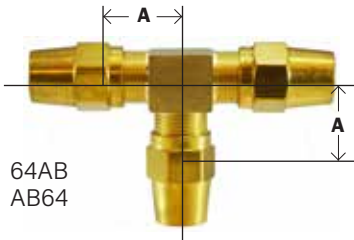
Hex

PART #	TUBE O.D.	A	HEX	APPROX. WT. LBS.	
38179	1/4"	0.81	0.44	0.08	----
38180	3/8"	1.10	0.56	0.14	----
38181	1/2"	1.07	0.69	0.24	----
38182	5/8"	1.41	0.81	0.34	----
38183	3/4"				----

62AB 1362

**TEE**

SAE# 120401BA

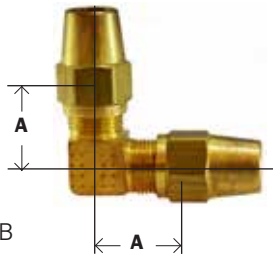
64AB  
AB64

PART #	TUBE O.D.	A	APPROX. WT. LBS.	
38188	1/4"	0.62	0.16	----
38189	3/8"	0.82	0.24	----
38190	1/2"	0.94	0.48	----
38191	5/8"			

264AB 1364

**ELBOW**

SAE# 120201BA

65AB  
A65

PART #	TUBE O.D.	A	APPROX. WT. LBS.	
38196	1/4"	0.62	0.10	----

265AB 1365

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

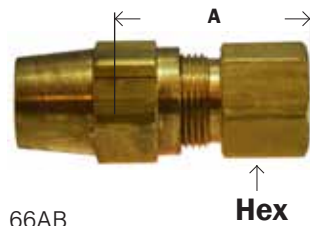


# D.O.T. AIR BRAKE - COPPER TUBING

## BRASS FITTINGS

### FEMALE ADAPTER

SAE# 120103BA



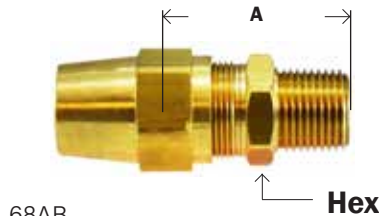
66AB  
AB66

PART #	TUBE O.D. X FEMALE NPTF	A	HEX	APPROX. WT. LBS.	
38204	1/4" x 1/8"	0.84	0.56	0.08	----
38205	1/4" x 1/4"	1.07	0.68	0.10	----
38206	3/8" x 1/8"	1.00	0.56	0.10	----
38207	3/8" x 1/4"	1.19	0.68	0.12	----
38208	3/8" x 3/8"	1.18	0.87	0.16	----
38209	1/2" x 3/8"	1.27	0.87	0.18	----
38210	1/2" x 1/2"	1.44	1.06	0.20	----
38211	5/8" x 3/8"	1.31	0.87	0.24	----
38212	5/8" x 1/2"	0.50	1.06	0.26	----
38213	3/4" x 1/2"				----

66AB 1366

### MALE ADAPTER

SAE# 120102BA



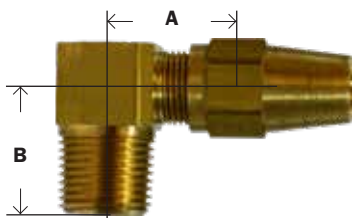
68AB  
AB68

PART #	TUBE O.D. X MALE NPTF	A	HEX	APPROX. WT. LBS.	
38217	1/4" x 1/8"	0.88	0.43	0.06	----
38218	1/4" x 1/4"	0.97	0.56	0.08	----
38221	3/8" x 1/4"	1.09	0.56	0.10	----
38222	3/8" x 3/8"	1.19	0.69	0.12	----
38223	3/8" x 1/2"	1.45	0.87	0.18	----
38224	1/2" x 1/4"	1.32	0.69	0.16	----
38225	1/2" x 3/8"	1.35	0.69	0.18	----
38226	1/2" x 1/2"	1.51	0.87	0.24	----
38227	5/8" x 3/8"	1.39	0.81	0.22	----
38228	5/8" x 1/2"	1.57	0.87	0.24	----
38229	3/4" x 1/2"	1.67	1.00	0.34	----

68AB 368

### 90° MALE ELBOW

SAE# 120202BA



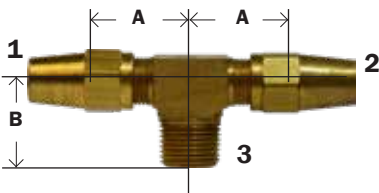
69AB  
AB69

PART #	TUBE O.D. X MALE NPTF	A	B	APPROX. WT. LBS.	
38235	1/4" x 1/8"	0.64	0.76	0.08	----
38236	1/4" x 1/4"	0.69	0.88	0.10	----
38237	1/4" x 3/8"	0.73	0.86	0.14	----
38239	3/8" x 1/4"	0.80	0.93	0.12	----
38240	3/8" x 3/8"	0.83	0.90	0.16	----
38241	3/8" x 1/2"				----
38243	1/2" x 3/8"	0.92	0.98	0.22	----
38244	1/2" x 1/2"	1.04	1.19	0.30	----
38246	5/8" x 1/2"	1.10	1.25	0.36	----

269AB 1369

### MALE BRANCH TEE

SAE# 120425BA



72AB  
AB72

PART #	TUBE O.D. X MALE NPTF (1&2)X3	A	B	APPROX. WT. LBS.	
38278	3/8" x 1/4"	0.78	0.91	0.18	----
38279	3/8" x 3/8"	0.85	0.92	0.24	----

272AB 1372

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**D.O.T. AIR BRAKE - HOSE/ ENDS**

BRASS FITTINGS

**D.O.T. AIR BRAKE REUSABLE HOSE/ FITTINGS****•Typical Application**

Air Brake hose connections.  
Meets SAE & DOT specifications  
(FMVCS 10 GAL)

**•Pressure**

Determined by maximum working pressure for hose size. Up to 125 psi

Temperature: -40°F to + 120° F ( -40°C to +48°C )

**•Advantages**

Can be used for nearly any brake line. Easy to assemble with a good selection of hose end configurations. Brass material offers excellent resistance against corrosion.

**• Tolerance**

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

**•Assembly Instructions**

- 1- Slide nut and sleeve onto hose. Make sure bevel edge of sleeve faces out toward fitting.
- 2- Push hose into fitting until it bottoms.
- 3- Screw nut until contact is made with body hex.

NOTE: When reassembling fitting, body and nut should be inspected. Only reuse if in proper condition. Sleeves should never be reused.

**SLEEVE**

FERRULE

60HE  
HE60

PART #	HOSE I.D. SIZE	APPROX. WT. LBS.	
38300	3/8"	0.02	----
38301	1/2"	0.02	----

#60HC 3380-A 0903610 367 60RB

**NUT**61HE  
HE61

PART #	HOSE I.D. SIZE	APPROX. WT. LBS.	
38306	3/8"	0.04	----
38307	1/2"	0.06	----

61RB #61HC 369 3380-B 0903624

**NUT FOR USE WITH SPRING**61HES  
HE61N

PART #	HOSE I.D. SIZE	THREAD	APPROX. WT. LBS.	
38312	3/8"	31/32-20	0.04	----
38313	1/2"	1-3/32-20	0.06	----

#61HCS 0903613 3380-D 61RB5G

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# D.O.T. AIR BRAKE - HOSE/ ENDS

## BRASS FITTINGS

### SPRING



61HSG  
HE61G

PART #	HOSE I.D.	APPROX. WT. LBS.	
38351	3/8"	0.20	----
38352	1/2"	0.22	----

#60SG 0901045 3380-C 377

### NUT AND SPRING ASSEMBLY



HE61NG

PART #	HOSE I.D. SIZE	APPROX. WT. LBS.	
38015	3/8"	0.18	----
38016	1/2"	0.24	----

379 67RBSG 0999999

### UNION



62HE  
HE62

PART #	HOSE I.D.	THREAD	APPROX. WT. LBS.	
38318	3/8"	31/32-20	0.32	----
38319	1/2"	1-1/8-20	0.48	----

#62HC 3380B-Y0 362



BODY ONLY

PART #	HOSE I.D.	THREAD	APPROX. WT. LBS.	
39318	3/8"	31/32-20	0.32	----
39319	1/2"	1-1/8-20	0.48	----

### FEMALE CONNECTOR HOSE



66HEA

PART #	HOSE I.D. X FEMALE ABS	APPROX. WT. LBS.	
38357	3/8" x 3/4-20	0.24	----
38358	1/2" x 7/8-20	0.39	----

#66ABS 66RBSV 3380B-Y7 386



BODY ONLY

PART #	HOSE I.D. X FEMALE ABS	APPROX. WT. LBS.	
39357	3/8" x 3/4-20	0.24	----
39358	1/2" x 7/8-20	0.38	----

### MALE CONNECTOR



68HEA  
HE68S

PART #	HOSE I.D. X MALE PIPE	APPROX. WT. LBS.	
38363	3/8" x 1/4"	0.38	----
38364	1/2" x 3/8"	0.46	----

#68ABS 09155 3380B-Y8 387

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**D.O.T. AIR BRAKE - HOSE/ENDS**

## BRASS FITTINGS

## ADAPTER FOR SWIVEL TYPE REUSABLE AND CRIMPED

68HEAB  
1390

PART #	MALE ABS X MALE PIPE	ABS THREAD	APPROX. WT. LBS.	
38369	3/8" x 1/4"	3/4-20	0.05	----
38368	3/8" x 3/8"	3/4-20	0.08	----
38372	3/8" x 1/2"	3/4-20	0.12	----
38370	1/2" x 3/8"	7/8-20	0.10	----
38371	1/2" x 1/2"	7/8-20	0.12	----

#68ABS 1390 76RB 388

## MALE ADAPTER

68HE  
HE68

PART #	HOSE I.D. X MALE PIPE	APPROX. WT. LBS.	
38333	3/8" x 1/4"	0.22	----
38334	3/8" x 3/8"	0.24	----
38335	3/8" x 1/2"	0.26	----
38336	1/2" x 3/8"	0.33	----
38337	1/2" x 1/2"	0.36	----

#68HC 368 3380B-Y2 68RB

## ADAPTER BODY

68HEB  
HE68B

PART #	HOSE I.D. X MALE PIPE	APPROX. WT. LBS.	
38324	3/8" x 1/4"	0.12	----
38325	3/8" x 3/8"	0.14	----
38326	3/8" x 1/2"	0.20	----
38327	1/2" x 3/8"	0.18	----
38328	1/2" x 1/2"	0.20	----

#68B W1391Z

## MALE ADAPTER

68HES  
HE68G

PART #	HOSE I.D. X MALE PIPE	APPROX. WT. LBS.	
38342	3/8" x 1/4"	0.32	----
38343	3/8" x 3/8"	0.34	----
38344	3/8" x 1/2"	0.38	----
38345	1/2" x 3/8"	0.48	----
38346	1/2" x 1/2"	0.52	----

#68HCS 3380B-Y3 68RBSG 378

“The man who removes a mountain begins  
by carrying away small stones.”

- Chinese Proverb

# STEEL GREASE FITTINGS

## BRASS FITTINGS

- 8000 PSI MAX. PRES-
- EXCEEDS 12HR SALT

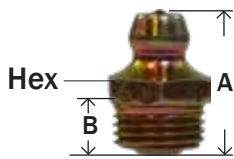
Meets SAE #J-534C

• ASSORTMENTS ALSO

Many types available on special order.

### PIPE THREAD

### BALL CHECK - 1/8"-27 NPTF

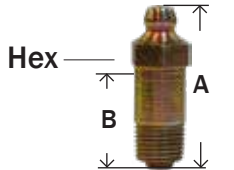


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36110	1/8" -27 NPTF	0.66	0.28	0.437	0.01	----
36110SS	303 SS	0.68	0.29	0.437	0.01	----
36111	Thread Forming	0.62	0.23	0.437	0.01	----

#610 1610 2800 1720 5000

### PIPE THREAD

### BALL CHECK

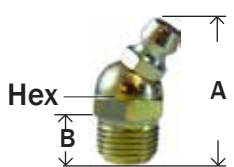


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36112	1/8" -27 NPTF	1.25	0.22	0.437	0.02	----
36113	1/8" -27 NPTF	1.75	1.26	0.437	0.02	----

#607 1607 2800 1669 5003

### PIPE THREAD

### 30° ANGLE BALL CHECK

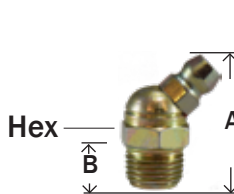


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36114	1/8" -27 NPTF	0.90	0.30	0.437	0.01	----

#611 1611 2830 5100

### PIPE THREAD

### 45° ANGLE BALL CHECK

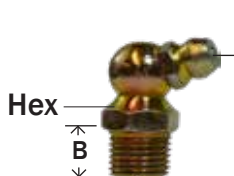


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36116	1/8" -27 NPTF	0.88	0.22	0.437	0.01	----
36116SS	303 SS	0.95	0.29	0.437	0.01	----

#688 1688 2845 5200

### PIPE THREAD

### 65° ANGLE BALL CHECK

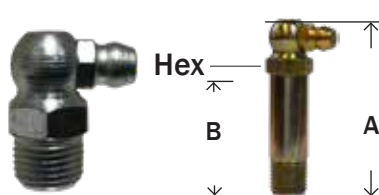


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36118	1/8" -27 NPTF	0.86	0.30	0.437	0.01	----

#612 1612 2865 5300

### PIPE THREAD

### 90° ANGLE BALL CHECK

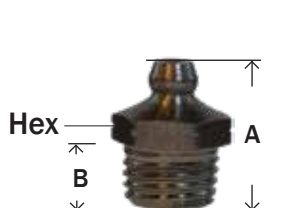


PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36120	1/8" -27 NPTF	0.84	0.30	0.437	0.01	----
36120SS	303 SS	0.84	0.29	0.437	0.01	----
36121	1/8" -27 NPTF	1.81	1.25	0.437	0.01	----

#613 1613 2890 5400 5407

### PIPE THREAD

### BALL CHECK - 1/4"-18 NPTF



PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36130	1/4" -18 NPTF	0.84	0.30	0.437	0.02	----
36130SS	303 SS	0.87	0.42	0.437	0.02	----

#627 1627 2900K 5050

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

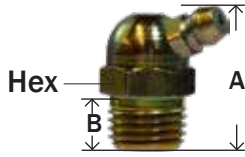
BRASS



# STEEL GREASE FITTINGS

## BRASS FITTINGS

### PIPE THREAD

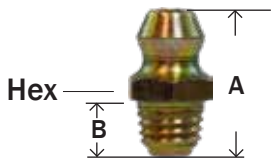


### 65° ANGLE BALL CHECK

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36132	1/4"-18 NPTF	0.97	0.34	0.56	0.02	----

#629 1629 2965 5350

### 1/4-28 TAPER THREAD

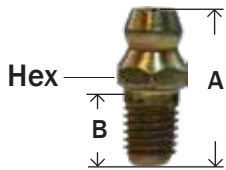


### SHORT BALL CHECK - 1/4-28 NPTF

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36140	1/4"-28 NPTF	0.54	0.18	0.31	0.01	----
36140SS	303 SS	0.54	0.18	0.31	0.01	----
36141	Thread Forming	0.55	0.10	0.31	0.01	----

#641 1641 2400 3038 5010

### 1/4-28 TAPER THREAD

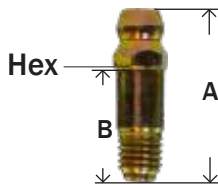


### LONG BALL CHECK

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36142	1/4"-28 Taper Thread	0.69	0.34	0.312	0.01	----

#652 1652 2400 5013

### 1/4-28 TAPER THREAD

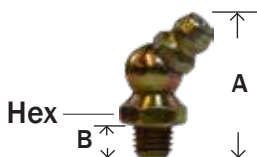


### EXTRA LONG BALL CHECK

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36144	1/4"-28 Taper Thread	0.92	0.60	0.312	0.02	----

#680 1680 2400 5014

### 1/4-28 TAPER THREAD



### SHORT 45° BALL CHECK

PART #	SIZE	AN- GLE	A	B	HEX	APPROX. WT. LBS.	
36146	1/4"-28 Taper Thread	45°	0.82	0.20	0.375	0.02	----
36146SS	303 SS	45°	0.81	0.20	0.375	0.02	----

#637 1637 2445 1665 2465 3010 5210

### 1/4-28 TAPER THREAD

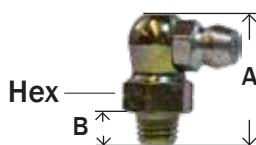


### LONG 45° BALL CHECK

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36148	1/4"-28 Taper Thread	0.94	0.30	0.375	0.02	----

#636 1630 2445

### 1/4-28 TAPER THREAD



### 90° ANGLE BALL CHECK

SAE# A515002

PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36150	1/4"-28 Taper Thread	0.75	0.10	0.375	0.02	----
36150SS	303 SS	0.75	0.20	0.375	0.02	----
36152	Thread Forming	0.75	0.16	0.375	0.02	----

#911 1911 2490 3054 5410

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL GREASE FITTINGS

## BRASS FITTINGS

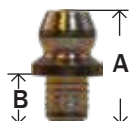
### DRIVE TYPE BALL CHECK Drive Type



PART #	SIZE	A	B	APPROX. WT. LBS.	
36160	5/16"	0.55	0.25	0.01	----

#608 1608 5021

### DRIVE TYPE BALL CHECK



PART #	SIZE	A	B	APPROX. WT. LBS.	
36164	3/16"	0.52	0.25	0.01	----
36164SS	303 SS	0.51	0.25	0.01	----

#728 1728 2316 5033

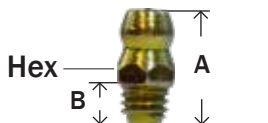
### DRIVE TYPE BALL CHECK



PART #	SIZE	A	B	APPROX. WT. LBS.	
36166	1/4"	0.55	0.23	0.01	----
36166SS	303 SS	0.55	0.23	0.01	----

#743 1743 214 5029

### METRIC

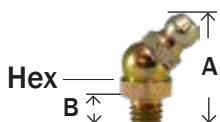


PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36168	6MM x 1	16	3.7	7	0.01	----

( Diameter x Pitch )

#711 6000 2106 2M6 5175

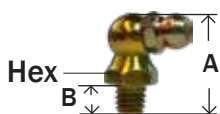
### METRIC 45° ANGLE



PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36170	6MM x 1	21	3.7	9	0.02	----

#712 6045 2107 5176

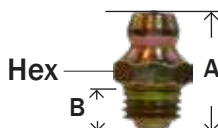
### METRIC 90° ANGLE



PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36172	6MM x 1	18	3.7	9	0.02	----

#713 6090 2108 ZM906 5177

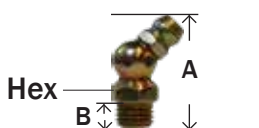
### METRIC



PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36174	8MM x 1	16	3.7	9	0.02	----

#811 8000 2103 ZM58 5178

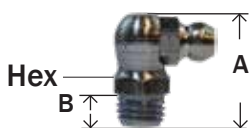
### METRIC 45° ANGLE



PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36176	8MM x 1	21	3.7	9	0.02	----

#812 8045 2104 ZM458 5179

### METRIC 90° ANGLE



PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36178	8MM x 1	18	3.7	9	0.02	----

#813 8090 2105 ZM908 5180

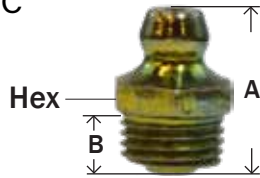
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**STEEL GREASE FITTINGS**

## BRASS FITTINGS

## METRIC

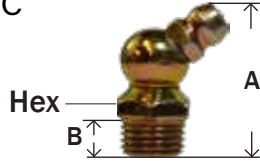


PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36180	10MM x 1	16	3.7	11	0.02	----

• DIAMETER X PITCH (EXTRA FINE)

#911 9000 2109 ZM510 5181

## METRIC

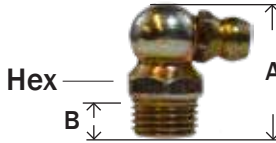


## 45° ANGLE

PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36182	10MM x 1	21	3.7	11	0.02	----

#912 9045 2110 ZM4510

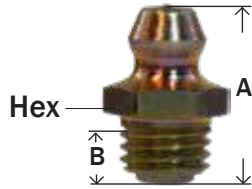
## METRIC



## 90° ANGLE

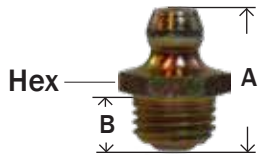
PART #	SIZE	A (MM)	B (MM)	HEX (MM)	APPROX. WT. LBS.	
36184	10MM x 1	18	3.7	11	0.02	----

#913 9090 2111 ZM9010 5183



PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36186	5/16"-24	0.65	0.12	0.375	0.02	----

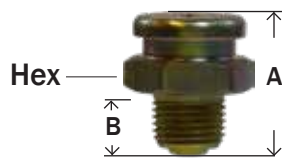
#711-B 1711 2500



PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36188	3/8"-24	0.65	0.14	0.437	0.01	----

#710-B 1710 2600

## BUTTON HEAD



PART #	SIZE	A	B	HEX	APPROX. WT. LBS.	
36200	1/8"-27 PTF	0.75	0.34	0.625	0.03	----
36205	1/4"-18 NPT	0.83	0.44	0.625	0.03	----

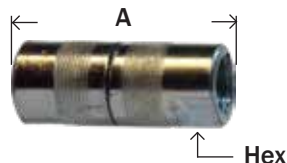
1184 1186

**WHIP HOSE - EXCEEDS SAE 100R1-AT - USE WITH HAND GREASE GUNS ONLY  
10,000 PSI BURST PRESSURE RUB-**1/8" NPT SOLID  
3/16" ID**3,000 PSI WORKING PRESSURE**

PART #	LENGTH	
36210	12" RUBBER	----
36212	18" RUBBER	----
36214	24" RUBBER	----
36216	36" RUBBER	----

**4 JAW GREASE GUN COUPLER**

PROVIDES QUICK, POSITIVE, LEAKPROOF CONNECTION W/ GREASE



1/8" NPTF

PART #	A	HEX	APPROX. WT. LBS.	
36220	1.50	0.56	0.05	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL GREASE FITTINGS

BRASS FITTINGS

## ADAPTERS FOR GREASE FITTINGS

ADAPTERS

• CARBON STEEL, ZINC COATED



PART #	FEMALE	MALE	L	H	WEIGHT	
36300	1/8"-27 NPTF	1/4"-28" SAE-LT	.75	1/2	0.02	----
36301	1/8"-27 NPTF	1/4"-28" SAE-LT	.87	1/2	0.02	----



PART #	FEMALE ENGLISH TO MALE ENGLISH	L	H	WEIGHT		
36304	1/4"-28 UNF	M6 x 1.0	.43	9mm	0.01	----
36305	1/4"-28 UNF	M8 x 1.0	.45	3/8	0.01	----
36306	1/4"-28 UNF	M10 x 1.0	.32	7/16	0.01	----

EXTENSIONS



PART #	FEMALE ENGLISH TO MALE ENGLISH	L	H	WEIGHT		
36307	1/4"-28 UNF	1/4"-28 SAE-LT	1.34	-	0.01	----
36308	1/8"-27 NPTF	1/8"-27 NPTF	.75	1/2	0.02	----
36309*	1/8"-27 NPTF	1/8"-27 NPTF	.82	1/2	0.02	----
36310	1/8"-27 NPTF	1/8"-27 NPTF	.94	9/16	0.04	----
36311	1/8"-27 NPTF	1/8"-27 NPTF	1.25	1/2	0.04	----

\*BRASS PLATED

45° ANGLE ELBOWS



PART #	FEMALE	MALE	L	H	WEIGHT	
36360	1/8"-27 NPTF	1/4"-28 SAE-LT	.81	1/2	0.02	----
36362	1/8"-27 NPTF	1/8"-27 PTF SAE Short	1.00	1/2	0.03	----

90° ANGLE ELBOWS



PART #	FEMALE	MALE	L	H	WEIGHT	
36370	1/8"-27 NPTF	1/4"-28 SAE-LT	.81	1/2	0.03	----
36371	1/8"-27 NPTF	1/4"-28 SAE-LT	1.04	1/2	0.03	----
36372	1/8"-27 NPTF	1/4"-18 PTF SAE Short	1.19	9/16	0.06	----
36374	1/8"-27 NPTF	1/8"-27 PTF SAE Short	1.00	1/2	0.03	----
36375	1/8"-27 NPTF	1/8"-27 NPTF	1.13	1/2	0.03	----
36377	1/4"-18 NPTF	1/4"-18 NPTF	1.34	11/16	0.08	----
36376	1/8"-27 NPTF	1/8"-27 NPTF	1.50	5/8	0.07	----
36373	1/8"-27 PTF SPL Extra Short	1/8"-27 PTF SPL Extra Short	.82	1/2	0.03	----

COUPLING



PART #	FEMALE	FEMALE	L	H	WEIGHT	
36340	1/4"-28 UNF	1/8"-27 NPTF	.65	1/2	0.02	----

BULKHEAD CONNECTOR



PART #	FEMALE	MALE (FEMALE)	L	H	WEIGHT	
36350	1/8"-27 NPTF	1/8"-27 NPSM (1/4"-28 UNF)	.88	1/2	0.03	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# SPECIALTY VALVES

## BRASS FITTINGS

# SPECIALTY VALVES AND COCKS



DRAIN COCKS



AIR VALVES



3, 4 AND 6 WAY



NEEDLE



MARINE &amp; ANTI-SIPHON



PANEL MOUNT BALL VALVES



TRUCK



MINI BALL



SOLID BOTTOM SHUT-OFF



CHECK



SPRING BOTTOM SHUT-OFF

See our valve section for much, much more!

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# DRAIN COCKS

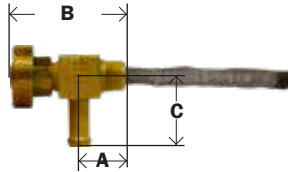
## BRASS FITTINGS

### DRAIN COCKS

- For use with low pressure air, water and fluids.
- Designed for a working pressure of 150 psi @ 250°.
- Hand-tightening provides a metal-to-metal seal.
- Not intended for natural gas, LPG, nuclear or aircraft applications.

Install on your tank for easy draining

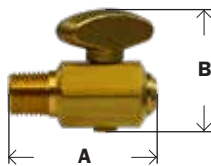
### GASOLINE SHUT OFF W/ SCREEN FILTER



PART #	BARB X MALE PIPE	A	B	C	APPROX. WT. LBS.	
46064	1/4" x 1/8"	0.55	1.34	0.66	0.06	----

827

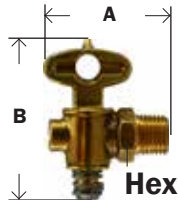
### DRAIN COCK 150 PSI - TRUNK AIR TANK



PART #	MALE PIPE	A	B	APPROX. WT. LBS.	
46066	1/4"	1.73	1.41	0.22	----

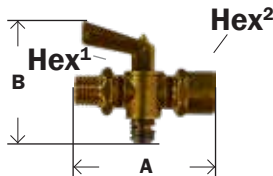
DCR601-4

### TRUCK DRAIN - 125 P.S.I.G



PART #	MALE PIPE	INDUSTRY NUMBER	A	B	HEX	APPROX. WT. LBS.	
46067	1/8"		1.53	1.95	0.62	0.14	----

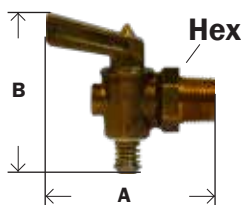
### SHUT OFF - 150 P.S.I MAX.



PART #	MALE PIPE X FEMALE PIPE	INDUSTRY NUMBER	A	B	HEX 1	HEX 2	APPROX. WT. LBS.	
46069	1/4"	W20332	1.96	1.96	0.75	0.62	0.20	----

#60HC 3380-A 0903610 367

### LEVER HANDLE



PART #	MALE PIPE	INDUSTRY NUMBER	A	B	HEX	APPROX. WT. LBS.	
46070	1/8"	M-41-P	1.99	1.80	0.62	0.04	----
46071	1/4"	M-42-P	2.06	1.81	0.62	0.06	----
46072	3/8"	M-43-P	2.30	2.29	0.81	0.08	----
46073	1/2"	M-44-P	3.00	2.50	0.87	0.16	----

• 30 psi

\*Valve is closed when handle is in the position of the picture

840 41D DC601

### AIR TANK DRAIN PULL VALVE



PART #	SIZE	DESCRIPTION	
39595	1/4" male	5ft nylon coated pull cable	----
39596	1/4" male	4ft nylon coated pull cable	----
39597	1/4" male	3ft nylon coated pull cable	----
39600	1/4" male	Air valve only	----

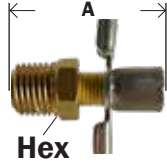
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**DRAIN COCKS**

## BRASS FITTINGS

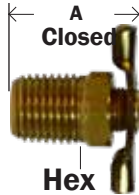
## INTERNAL SEAT



PART #	MALE PIPE	INDUSTRY NUMBER	A	HEX	APPROX. WT. LBS.	
46079	1/8"	6783	1.45	0.55	0.02	----

DC602 808 400A 1800A

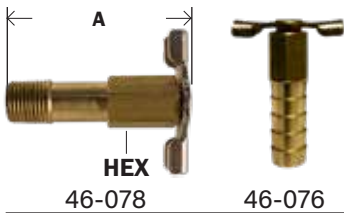
## INTERNAL SEAT - WING NUT HANDLE



PART #	MALE PIPE	INDUSTRY NUMBER	A	HEX	APPROX. WT. LBS.	
46074	1/8"	130	0.92	0.40	0.04	----
46075	1/4"	140	0.94	0.56	0.06	----
46077	3/8"	230	1.27	0.68	0.08	----

HB -5/16 803 305A

## LONG INTERNAL SEAT



PART #	SIZE	IND #	A	HEX	APPROX. WT. LBS.	
46078	1/8 MIP	1.85				----
46076	3/8" Hose I.D.		1.65	0.43	0.02	----

809

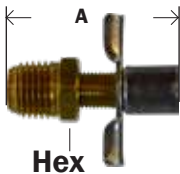
## PIN HANDLE - INTERNAL SEAT



PART #	MALE PIPE	INDUSTRY NUMBER	A	HEX	APPROX. WT. LBS.	
46080	1/8"	M-200-P	1.22	0.50	0.04	----
46081	1/4"	M-201-P	1.31	0.56	0.06	----
46082	3/8"	M-202-P	1.53	0.68	0.12	----

DC603 802

## EXTERNAL SEAT W/ SPOUT



PART #	MALE PIPE	INDUSTRY NUMBER	A	HEX	APPROX. WT. LBS.	
46084*	1/4"	6788	1.56	0.56	0.02	----

\* Replaces GM # 511771 &amp; Chrysler #836015

200A 239 DC606 807

## BIBB VALVE



PART #	MALE PIPE	INDUSTRY NUMBER	A	B*	C	APPROX. WT. LBS.	
46088	1/8"	150	0.82	1.60	0.55	0.04	----
46089	1/4"	120	0.89	1.59	0.54	0.06	----
46089A	1/4"	6660	0.55	1.34	0.66	0.06	----

\* With valve closed

804 DC607 2019 201DH

## RADIATOR TYPE - EXTERNAL SEAT



PART #	MALE PIPE	INDUSTRY NUMBER	IND #	A	HEX	APPROX. WT. LBS.	
46085	1/8"	M-320-P	135	0.90	0.43	0.02	----
46086	1/4"	M-321-P	145	1.00	0.56	0.04	----
46087	3/8"	M-322-P	270	1.25	0.68	0.08	----
46083	1/2"	108	108	1.48	0.87	0.12	----

320D 240 DC604 801

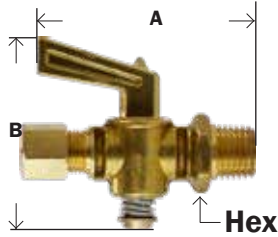
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SHUT-OFF COCKS

## BRASS FITTINGS

- Designed for working pressure of 30 PSI.
- Forged brass bodies and brass handles.
- Instantaneous off-on operation with 360° rotation.
- Not good for gasoline.

### COMPRESSION X MALE PIPE

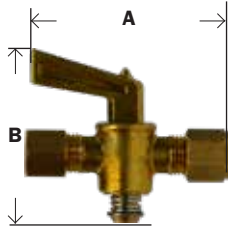


PART #	COMP X MALE PIPE	IND. #	A	B	HEX	APPROX. WT. LBS.	
46130	1/4" x 1/8"	27-C	1.87	1.81	0.51	0.14	----
46131	1/4" x 1/4"	227-C	2.05	1.86	0.62	0.15	----
46132	5/16" x 1/8"	29-C	2.05	1.90	0.50	0.16	----
46134	3/8" x 1/4"	57-C	2.05	1.83	0.62	0.15	----

868 V304C 2068 133C VC206

### COMPRESSION X COMPRESSION

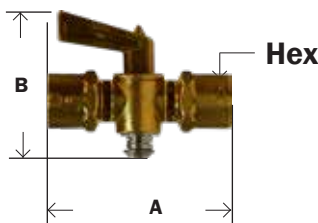
\* See pg. 73-74 to order nut and sleeve separately.



PART #	COMP X COMP	IND. #	A	B	APPROX. WT. LBS.	
46140	1/4"	28-C	1.82	1.84	0.12	----
46141	5/16"	30-C	1.84	1.88	0.14	----
46142	3/8"	58-C	1.87	1.80	0.14	----
46143	1/2"	68-C	2.21	2.32	0.22	----

V3030F 2062 134C

### FEMALE X FEMALE PIPE

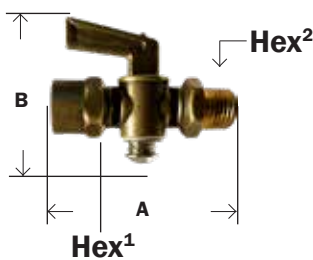


PART #	FEMALE PIPE X FEMALE PIPE	A	B	HEX	APPROX. WT. LBS.	
46151	1/8"	1.77	1.79	0.56	0.12	----
46152	1/4"	2.28	1.82	0.69	0.20	----
46152T*	1/4"	2.28	2.00	0.68	0.20	----
46153	3/8"	2.44	2.28	0.81	0.30	----

\* 150 PSI

V403P 132C 875

### MALE PIPE X FEMALE

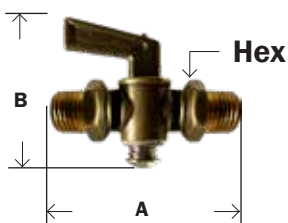


PART #	MALE PIPE X FEMALE PIPE	IND. #	A	B	HEX 1	HEX 2	APPROX. WT. LBS.	
46160	1/8"	48-P	2.03	1.84	0.50	0.56	0.14	----
46161	1/4"	49-P	2.26	1.79	0.69	0.69	0.18	----
46161T*	1/4"		2.26	1.98	0.69	0.69	0.20	----
46162	3/8"	50-P	2.33	2.28	0.82	0.82	0.28	----

\* 150 PSI

880 V402P 130C

### MALE PIPE X MALE PIPE



PART #	MALE PIPE X MALE PIPE	IND. #	A	B	HEX	APPROX. WT. LBS.	
46165	1/8"	76-P	2.15	1.80	0.69	0.12	----
46166	1/4"	77-P	2.22	1.84	0.70	0.17	----
46166T*	1/4"		2.23	2.00	0.68	0.18	----
46167	3/8"	78-P	2.43	2.24	0.82	0.22	----

\* 150 PSI

1V401P 890

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

**NEEDLE VALVES**

## BRASS FITTINGS

**NEEDLE VALVES**

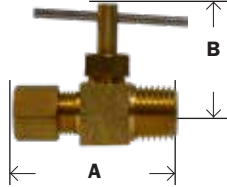
THESE ARE NOT LEAD FREE SEE PAGES 169 FOR LEAD FREE PRODUCTS

Made with either pin handle or pressed on handle.

Please specify if you have a preference.

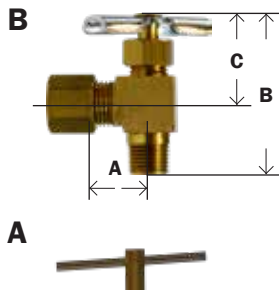
- Used on instrumentation, hydraulic, and pneumatic systems.
- Designed for a maximum working pressure of 150 PSI. or

- Provided with steel handles and metal-to-seats with fine-thread screwdown.
- Not designed for natural gas, LPG, nuclear aircraft applications.
- Always install with pressure against the seat.

**COMP X MALE PIPE**

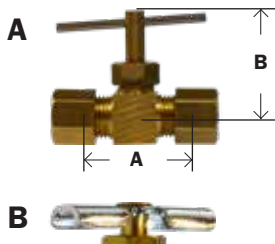
PART #	COMP X MALE PIPE	IND. #	A	B	APPROX. WT. LBS.	
46002	1/4" x 1/8"	M-101-C	1.29	1.12	0.07	----
46003	1/4" x 1/4"	M-101-C	1.27	1.14	0.10	----

NV106C 2205 820 3068

**COMP X MALE PIPE-ANGLE**

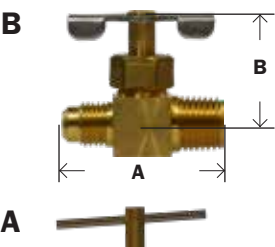
PART #	COMP X MALE PIPE	HAN-DLE	IND. #	A	B	C	APPROX. WT. LBS.	
46011	1/4" x 1/8"	A	M-103-C	0.56	1.48	0.93	0.08	----
46011X	Heavy Pat-tern	B	M-103-C	0.53	1.53	0.83	0.08	----
46012	1/4" x 1/4"	B	M-104-C	0.62	1.67	0.90	0.13	----
46013	5/16" x 1/8"	B	M-104-C	0.63	1.63	0.95	0.10	----

NV104C 2203 821 3069

**COMP X COMP**

PART #	COMP X COMP	HAN-DLE	IND. #	A	B	APPROX. WT. LBS.	
46020	3/16"	B	M-105-C	1.06	0.88	0.08	----
46021	1/4"	A	M-106-C	1.17	1.12	0.10	----
46022	5/16"	A	M-107-C	1.22	1.08	0.12	----
46023	3/8"	B	M-113-C	1.31	1.15	0.13	----

NV105C 3062 2201 822

**FLARE X MALE PIPE**

PART #	MALE FLARE X MALE PIPE	HAN-DLE	IND. #	A	B	AP-PROX. WT. LBS.	
46028	1/4" x 1/8"	A	M-104-SAE	1.35	1.12	0.07	----
46029	1/4" x 1/4"	B	M-1040-SAE	1.38	0.88	0.09	----
46031	3/8" x 1/4"	B	M-108-SAE	1.73	1.22	0.18	----

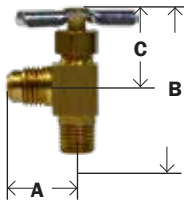
NV103F 2405 823 3048

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# NEEDLE VALVES

## BRASS FITTINGS

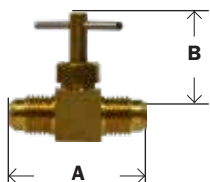
### FLARE X MALE PIPE



PART #	MALE FLARE X MALE PIPE	IND. #	A	B	C	APPROX. WT. LBS.	
46036	1/4" x 1/8"	M-103-SAE	0.68	1.54	0.86	0.08	----
46038	5/16" x 1/8"	M-203-SAE	0.88	1.59	0.94	0.11	----
46039	5/16" x 1/4"	M-204-SAE	0.90	1.94	1.00	0.14	----
46040	3/8" x 1/4"	M-303-SAE	0.95	1.86	0.90	0.17	----

NV101F 2403 824 3049

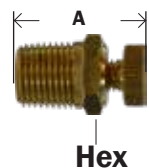
### FLARE X FLARE



PART #	MALE FLARE X MALE FLARE	IND. #	A	B	APPROX. WT. LBS.	
46045	1/4"	M-110-SAE	1.48	1.20	0.18	----
46046	3/8"	M-115-SAE	1.79	1.19	0.20	----

NV102F 3042 825 2401

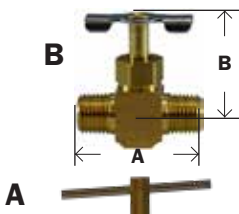
### MULTI-PURPOSE AIR VENT



PART #	MALE PIPE	A	HEX	APPROX. WT. LBS.	
46048	1/8"	0.78	0.43	0.02	----

705

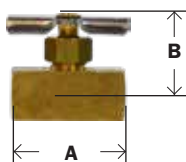
### MALE PIPE TO MALE PIPE



PART #	MALE PIPE X MALE PIPE	HANDLE	IND. #	A	B	APPROX. WT. LBS.	
46050	1/8"	A	M-108-P	1.25	1.09	0.08	----
46051	1/4"	B	M-110-P	1.69	1.00	0.16	----

NV107P 2301 826 3122

### FEMALE PIPE X FEMALE PIPE

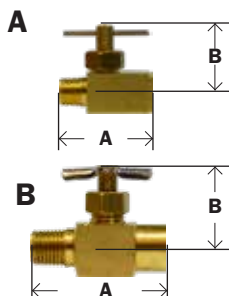


PART #	FEMALE PIPE X FEMALE PIPE	IND. #	A	B	APPROX. WT. LBS.	
46055*	1/8"	M-304-P	1.18	0.84	0.18	----
46056	1/4"	M-3044-P	1.60	1.24	0.21	----
46056P*	1/4" Heavy	M-3044-P	1.62	2.53	0.20	----

\* Pressed on handle

6800 NV109P 2304 817 3103

### MALE X FEMALE PIPE



NBR seals -30°C to 120°C

PART #	MALE PIPE X FEMALE PIPE	HANDLE	IND. #	A	B	APPROX. WT. LBS.	
46060	1/8"	A	M-305-P	1.18	1.09	0.10	----
46061	1/4"	A	M-3055-P	1.60	1.14	0.18	----
46061L	1/4" Light Pattern	B	M-3055-P	1.88	1.09	0.21	----

NV108P 2305 818 3120

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



# SPECIALTY VALVES

## BRASS FITTINGS

### BRASS TRUCK VALVES

- Used in heavy duty truck, trailer and mobile markets.
- Used on water, oil and coolant lines.
- Forged brass construction with steel handle.
- Temperature range -40° - 250°
- Max pressure 250 psi
- Metal to metal seats for high heat/ fluid compatibility
- Fine thread screw down to afford flow control ability and a positive seal.
- Not intended for natural gas, LPG, Nuclear or aircraft applications

200 PSI



TV44

### BARB TO MALE PIPE

PART #	SIZE	
46450	3/8 x 3/8	----
46451	5/8 x 3/8	----
46455	5/8 x 1/2	----
46457	3/4 x 3/8	----
46456	3/4 x 1/2	----

404V



TV45

### FEMALE TO MALE PIPE

PART #	SIZE	
46465	3/8 x 3/8	----
46466	3/8 x 1/2	----
46467	1/2 x 1/2	----

405V

TV49



### FLARE TO MALE PIPE

PART #	SIZE	
46475	1/2 x 1/2	----
46476	5/8 x 1/2	----

409V

TV412



### MIP X FLARE

PART #	SIZE	
46485	1/2 x 5/8	----

### SOLID BOTTOM VALVES

- Designed for instantaneous on-off operation.
- 360° rotation standard.
- 30 PSI
- Packed with grease.



8875

### O-RING SEALED MIP X FIP

PART #	SIZE	
46400	1/8	----
46401	1/4	----
46402	3/8	----

1035D M-70-SBV

- Good for Propane



### #M-72-SBV FIP X FIP

PART #	SIZE	
46411	1/4	----

### SOLID BOTTOM FUEL VALVES

- Approved for use on Motorcraft fuel lines.
- Pointer lever.
- 90° turn stop mechanism to assure positive location of the on and off positions.
- Corrosion proofed internal construction assures maximum salt atmosphere protection.
- Port hole is 1/4 (.250) diameter.
- UL listed for use in fuel oils no. 1 & no. 2, LP gas and utility gas.



### PIPE MALE X FEMALE

PART #	SIZE	
46400M	1/8 x 1/8	----
46401M	1/4 x 1/4	----
46402M	3/8 x 3/8	----

8980



### PIPE MALE X MALE

PART #	SIZE	
46406M	1/4 x 1/4	----

8990

- Good for Propane



### PIPE FEMALE X FEMALE

PART #	SIZE	
46411M	1/4 x 1/4	----

8975



### MALE PIPE X FLARE

PART #	SIZE	
46429M	1/4 x 3/8	----
46430M	3/8 x 3/8	----

8948

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

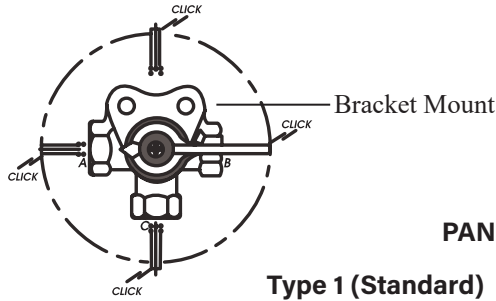
# SPECIALTY VALVES

## BRASS FITTINGS

### GROUND PLUG SHUT-OFF COCKS

NON-LUBRICATED PLUG VALVES are designed to operate in systems where INSTANTANEOUS PORT SELECTION is desired. Since LUBRICANTS ARE NOT USED, relubrication is not required. There is no lubricant to freeze and lock the valve or to contaminate fine fluids. The O-RING SEALED CAP and STEM eliminate leakage to atmosphere. The mating BRASS BODY and CELCON PLUG produce a fine seal that WILL NOT SEIZE OR GALL.

Designed for PANEL or BRACKET MOUNTING. They are generally recommended for operation in GASOLINE, OIL, AIR, WATER and DETERGENT systems from minus 40° to 180°F, at a maximum operating pressure of 30 p.s.i.g. The fluid port size is 9/32 (.281) diameter for 1/8 and 1/4 sizes, 5/16 (.312) diameter for the 3/8 size. **(Consult factory for applications**

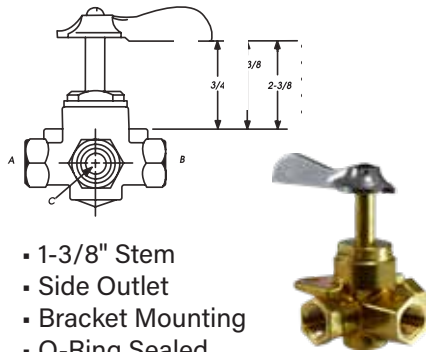


PANEL MOUNTING AVAILABLE

#### Type 1 (Standard)

A pronounced "click" may be felt at each position.

### THREE-WAY VALVES (Side Outlet)



- 1-3/8" Stem
- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard

#### LESS CLICK

PART #	A-B-C FEMALE PIPE THREAD	LENGTH OF STEM	
46247	1/4	1-3/8"	----
46248	3/8	1-3/8"	----

### M-108-MID WITH CLICK 360°

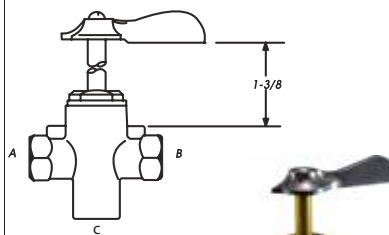
PART #	A-B-C FEMALE PIPE THREAD	LENGTH OF STEM	
46250	1/8	1-3/8"	----
46251	1/4	1-3/8"	----
46252	3/8	1-3/8"	----

V406P 6749

#### Openings:

- Handle Pointer over A.....Valve Open A-C
- Handle Pointer over C.....Valve Open B-C
- Handle Pointer over B.....Valve "OFF"
- Handle Pointer over Bracket.....Valve "OFF"

### THREE-WAY VALVES (Bottom Outlet)



- 1-3/8" Stem
- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard

#### LESS CLICK

PART #	A-B-C FEMALE PIPE THREAD	LENGTH OF STEM	
46241	1/4	1-3/8"	----

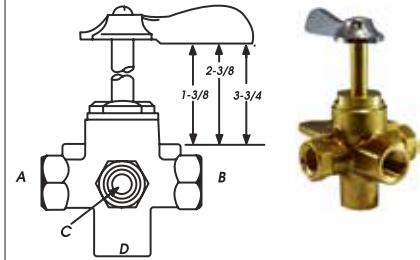
#### WITH CLICK 360°

PART #	A-B-C FEMALE PIPE THREAD	LENGTH OF STEM	
46243	1/8	1-3/8"	----
46244	1/4	1-3/8"	----

#### Openings:

- Handle Pointer over A.....Valve Open A-C
- Handle Pointer over B.....Valve Open B-C
- Handle Pointer over Bracket.....Valve "OFF"

### FOUR-WAY VALVES



- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard

#### LESS CLICK

PART #	A-B-C-D FEMALE PIPE THREAD	LENGTH OF STEM	
46257	1/4	1-3/8"	----

### M-114-MID WITH CLICK (360°)

PART #	A-B-C-D FEMALE PIPE THREAD	LENGTH OF STEM	
46255	1/4	1-3/8"	----
46256	3/8	1-3/8"	----

### WITH 2-3/8" LONG STEM M-115-MID

Part #	A-B-C-D Female Pipe Thread	Length of Stem	
46260	1/4	2-3/8"	----

#### Openings:

- Handle Pointer over A.....Valve Open A-D
- Handle Pointer over C.....Valve Open C-D
- Handle Pointer over B.....Valve Open B-D
- Handle Pointer over Bracket.....Valve "OFF"

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS

# MARINE FITTINGS

## BRASS FITTINGS

• Calibrated to support 30" column of gasoline.



**BRASS ANTI-SIPHON VALVES**

PART #	SIZE	
46520	1/4 x 1/4	----
46521	3/8 x 3/8	----
46522	1/2 x 1/2	----

• Flo direction <-



**BRASS ANTI-SIPHON VALVES  
BARB X NPT**

PART #	SIZE	
46529	1/4 x 1/4	----
46530	5/16 x 1/4	----
46531	3/8 x 1/4	----
46532	3/8 x 3/8	----
46533	1/2 x 3/8	----



**MINI BALL VALVE - BRASS  
W/ SS HANDLE AND NUT**

PART #	BARB X MIP	
46986	5/6 x 1/4	----
46987	3/8 x 1/4	----
46988	3/8 x 3/8	----
46989	1/2 x 1/2	----



**ALUMINUM**

PART #	SIZE	
46520A	1/4 x 1/4	----
46521A	3/8 x 3/8	----



**ALUMINUM**

PART #	SIZE	
46530A	5/16 x 1/4	----
46531A	3/8 x 1/4	----
46532A	3/8 x 3/8	----
46533A	1/2 x 3/8	----

- NBR O-Ring
- Working temp 180°F
- 3,000 PSI
- Brass or Aluminum
- #316 Ball & Spring



**MALE MIP X FEMALE FIP BRASS**

PART #	SIZE	
46523	1/4	----
46524	3/8	----



**ALUMINUM**

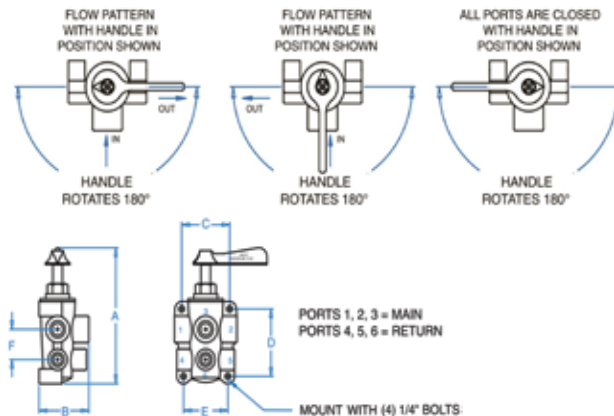
PART #	SIZE	
46523A	1/4	----
46524A	3/8	----



**FLARE X MIP - BRASS**

PART #	SIZE	
46526	3/8 x 1/4	----

## SIX PORT VALVES



Six port fuel valves are used where 2 tanks supply a single engine, and a return to each supply tank is required.

ABYC H33.9.2 states that fuel system valves must have an independent means of support, so in-line valves are not

PART #	IND. #	FEMALE PIPE THREAD OF	STEM	LENGTH TYPE	
46237	SK-1036	1-2-3 4-5-6 1/2 x 3/8	13/16	1	----



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MINIATURE BALL VALVES

## BRASS FITTINGS

### BRASS MINIATURE BALL VALVES

- Working Pressure up to 1000 P.S.I.G.
- ASTM B-16 Corrosion Resistant Brass Body.
- Non-Adjusting Viton O-Ring Stem Seal Design Never Needs Tightening.
- Highly Inert Teflon Seats.
- Long Life Nickel Plated Brass Ball.
- Blow-Out Proof Stem for Safety.
- Temperature: -40°F to 300°F
- 1/4 Turn Instantaneous On-Off Operation.
- Quarter Turn Handle Design.
- Water, Oil, and Air Pressure Systems.
- Ideal for tight, confined areas, or when routing aesthetics are desired. Applications



#### MALE X FEMALE

PART #	SIZE	
46900	1/8 x 1/8	----
46903	1/4 x 1/4	----



#### MALE X MALE

PART #	SIZE	
46910	1/8 x 1/8	----
46912	1/4 x 1/4	----



#### MALE PIPE X HOSE BARB

PART #	SIZE	
47042	1/8 x 1/4	----
46980	1/4 x 1/4	----
46981	1/4 x 3/8	----

### FEMALE X FEMALE



PART #	SIZE	
46920	1/8 x 1/8	----
46921	1/8 x 1/4	----
46922	1/4 x 1/4	----



PART #	SIZE	
46922A	1/4 x 1/4	----
46923	3/8 x 3/8	----



PART #	SIZE	
46924	1/2 x 1/2	----
46925	3/4 x 3/4	----

### U.L. TWO WAY VALVES

- Buna-N Seal, Teflon Seat Plated metal handle, plated brass ball.



#### U.L. TWO WAY VALVES

PART #	SIZE	
46440	1/4 x 1/4	----



#### U.L. TWO WAY VALVES

PART #	SIZE	
46443	1/4 x 1/4	----

### PANEL MOUNT BRASS BALL VALVES

- Working pressure: 1500 psi wog for 1/8" to 1/4", 1000 psi wog for 3/8" to 1/2"
- Vacuum rating: 29.92" Hg
- Working temp: -40°F to +300°F
- Panel mount hole is 9/16" Dia.
- Brass body cap, PTFE ball seats, Viton stem sealing, Brass chrome

#### FEMALE X FEMALE



PART #	SIZE	
46830	1/8 x 1/8	----
46832	1/4 x 1/4	----
46833	3/8 x 3/8	----
46834	1/2 x 1/2	----

#### FEMALE X FEMALE



PART #	SIZE	
46875	1/8 x 1/8	----
46878	1/4 x 1/4	----



PART #	SIZE	
46951	1/8 FPT	----
46956	1/4 FPT	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

BRASS



**CHECK VALVES****BRASS FITTINGS****BRASS CHECK VALVES**

- 500 PSI •1 PSI Cracking Pressure
- Buna-N Seal for water, air & inert gas
- **Viton Seal for oil, gas & diesel fuel**



- 180° temp rating

**FIP X FIP BUNA-N**

PART #	SIZE	
46560	1/8"	----
46561	1/4"	----
46562	3/8"	----
46563	1/2"	----
46564	3/4"	----

**FIP X FIP VITON**

PART #	SIZE	
46560V	1/8"	----
46561V	1/4"	----
46562V	3/8"	----
46563V	1/2"	----
46564V	3/4"	----

**FEMALE X MALE BUNA-N**

PART #	SIZE	
46565	1/8"	----
46566	1/4"	----
46567	3/8"	----
46568	1/2"	----
46569	3/4"	----

**MALE X MALE**

PART #	SIZE	
46570	1/8"	----
46571	1/4"	----
46572	3/8"	----
46573	1/2"	----

**MALE X FEMALE**

PART #	SIZE	
46575	1/8"	----
46576	1/4"	----
46577	3/8"	----
46578	1/2"	----

**HIGH PRESSURE CHECK VALVES**

MAX. 2500 PSI  
Cracking Pressure 1 PSI

- Opening diameter .187
- 180° max operating temp.
- SS ball and spring

**MNPT X MNPT**

PART #	SIZE	OPEN- ING DIA.	
46500	1/4 x 1/4	0.187	----

MAX. 2500 PSI

- Flo direction ->
- Opening diameter .187
- 180° max operating temp.
- Buna Seal
- SS ball and spring

**MNPT X FNPT**

PART #	SIZE	OPEN- ING DIA.	
46505	1/4 x 1/4	0.187	----

MAX. 1200 PSI

- O-Ring poppet seal Bubble tight operation
- 180°F max operating temp.

**FNPT X FNPT**

PART #	SIZE	OPEN- ING DIA.	
46510	1/4 x 1/4	0.25	----
46511	3/8 x 3/8	0.375	----
46512	1/2 x 1/2	0.437	----

**PNEUMATIC CHECK VALVES**

- Max Operating Pressure: 220 psi
- Working Pressure: 14.5-145 psi
- Cracking Pressure: 2.8 psi
- Maximum Temperatures: 140° F

<b>Body</b>	Chrome plated Brass
<b>Spring</b>	Steel
<b>O-Ring</b>	NBR Rubber



NPT- Inlet NPSM - Outlet

PART #	SIZE	DIMENSIONS (IN.)	
		A	B
46-200	1/4	1.97	0.67
46-201	3/8	1.97	0.83
46-202	1/2	2.48	0.98

**HIGH PRESSURE CHECK VALVES**

- Operates in any position, and is available in mixed or matched end combinations.
- Standard cracking pressure 1 p.s.i. with a maximum operating pressure of 3000 p.s.i. and a maximum operating temperature of 180°F using Buna-N seals.
- Buna-N seals standard, other seals available.
- Guided 316 stainless steel ball + spring.
- Fixed ringed seat prevents extrusion of seal.
- Opening diameter .28
- Approximate CV 1.2
- Water G.P.M. @ 10 p.s.i. is 4.0
- Good for air

**FEMALE X FEMALE**

PART #	SIZE	
46513	1/4	----
46517	3/8	----

**FEMALE X MALE**

PART #	SIZE	
46514	1/4	----
46518	3/8	----

**MALE X FEMALE**

PART #	SIZE	
46516	1/4	----
46539	3/8	----

**MALE X MALE**

PART #	SIZE	
46515	1/4	----
46519	3/8	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# LEAD FREE



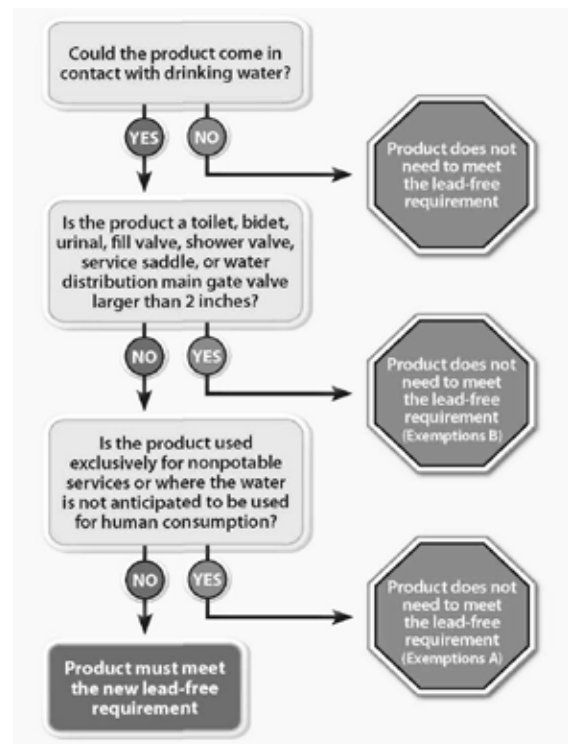
## What is the new lead-free requirement?

In 2011, the Reduction of Lead in Drinking Water Act was signed into law. The Act has reduced the lead content allowed in drinking water system and plumbing materials by changing the definition of "lead-free" in Section 1417 of the Safe Drinking Water Act.

*The term "lead-free" has been updated from not more than 8% lead content to mean "not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures."*

## How do I know which products must meet the new lead-free requirement?

The prohibitions on use and introduction into commerce apply to all pipe, pipe fittings, plumbing fittings, and fixtures (henceforth referred to as "products"), including stocked inventories that have not been installed. This includes coated or uncoated brass or bronze materials. By using the flow-chart below as a guide, you can determine if a product must meet the new lead-free requirement:



## Lead-Free Requirement Exemptions

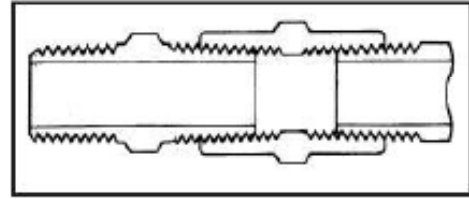
(A) The new requirement does not apply to pipes, pipe fittings, plumbing fittings, or fixtures, including backflow preventers, that are used exclusively for nonpotable service such as manufacturing, industrial processing, irrigation, outdoor watering or any other uses where the water is not anticipated to be used for human consumption.

(B) The new requirement does not apply to toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles or water distribution main gate valves 2 inches in diameter or larger.

**LEAD FREE PIPE**  
LEAD FREE BRASS FITTINGS

**BRASS PIPE FITTINGS LEAD FREE**

- One piece construction, available in barstock or forgings
- Used with brass or steel pipe
- All pipe threads are "American Standard Taper Pipe Threads"
- Fair vibration resistance
- Used in low to medium pressure applications
- Teflon tape or pipe sealant is recommended
- Pipe threads should be tightened 2 1/2 turns past finger tight



Nominal Pipe Size	1/8	1/4	3/8	1/2	3/4	1
Thread size	1/8-27	1/4-18	3/8-18	1/2-14	3/4-14	1-11 1/2
Approx. Diameter in inches	3/8"	1/2"	5/8"	3/4"	1"	1-3/8"

**BRASS PIPE FITTINGS**

**ELBOW 90° BARSTOCK**



LF100

PART #	SIZE	
28001LF	1/8"	----
28002LF	1/4"	----
28003LF	3/8"	----
28004LF	1/2"	----
28005LF	3/4"	----

**ELBOW 90° FORGED**



PART #	SIZE	
28009LF	1/8"	----
28010LF	1/4"	----
28011LF	3/8"	----
28012LF	1/2"	----
28013LF	3/4"	----

**REDUCING ELBOW FORGED**



PART #	SIZE	
28015LF	3/8" x 1/4"	----

**ELBOW 45°**



LF10045

PART #	SIZE	
28018LF	1/8"	----
28019LF	1/4"	----

**TEE BARSTOCK**



LF101

PART #	SIZE	
28024LF	1/8"	----
28025LF	1/4"	----
28026LF	3/8"	----
28027LF	1/2"	----
28028LF	3/4"	----

**TEE FORGED**



PART #	SIZE	
28032LF	1/8"	----
28033LF	1/4"	----
28034LF	3/8"	----
28035LF	1/2"	----
28036LF	3/4"	----

**REDUCING TEE FORGED**



PART #	SIZE	
28039LF	3/8"x3/8"x1/4"	----

**CROSS BARSTOCK**



LF102

PART #	SIZE	
28041LF	1/8"	----
28042LF	1/4"	----
28043LF	3/8"	----
28044LF	1/2"	----
28045LF	3/4"	----

**COUPLING**



LF103

PART #	SIZE	
28058LF	1/8"	----
28059LF	1/4"	----
28060LF	3/8"	----
28061LF	1/2"	----
28062LF	3/4"	----

**X-HEAVY COUPLING**



PART #	SIZE	
28059EHLF	1/4"	----

**UNION**



LF104

PART #	SIZE	
28067LF	1/8"	----
28068LF	1/4"	----
28069LF	3/8"	----
28070LF	1/2"	----
28071LF	3/4"	----

**CAP**



LF108

PART #	SIZE	
28075LF	1/8"	----
28076LF	1/4"	----
28077LF	3/8"	----
28078LF	1/2"	----
28079LF	3/4"	----

**PLUG CORED SQUARE HEAD**



LF

PART #	SIZE	
28084LF	1/8"	----
28085LF	1/4"	----
28086LF	3/8"	----
28087LF	1/2"	----
28088LF	3/4"	----

**PLUG SOLID SQUARE HEAD**



LF109SD

PART #	SIZE	
28084SLF	1/8"	----
28085SLF	1/4"	----
28086SLF	3/8"	----
28087SLF	1/2"	----
28088SLF	3/4"	----

**COUNTERSUNK PLUG HEX**



LF109AL

PART #	SIZE	
28093LF	1/8"	----
28094LF	1/4"	----
28095LF	3/8"	----
28096LF	1/2"	----
28097LF	3/4"	----

**PLUG CORED HEX HEAD**



LF121

PART #	SIZE	
28201LF	1/8"	----
28202LF	1/4"	----
28203LF	3/8"	----
28204LF	1/2"	----
28205LF	3/4"	----

**PLUG SOLID HEX HEAD**



PART #	SIZE	
28201SLF	1/8"	----
28202SLF	1/4"	----
28203SLF	3/8"	----
28204SLF	1/2"	----

**HEX BUSHING**



LF110

PART #	SIZE	
28102LF	1/4" x 1/8"	----
28103LF	3/8" x 1/8"	----
28104LF	3/8" x 1/4"	----
28105LF	1/2" x 1/8"	----
28106LF	1/2" x 1/4"	----
28107LF	1/2" x 3/8"	----
28108LF	3/4" x 1/8"	----
28109LF	3/4" x 1/4"	----
28110LF	3/4" x 3/8"	----
28111LF	3/4" x 1/2"	----
28112LF	1" x 1/4"	----
28113LF	1" x 3/8"	----
28114LF	1" x 1/2"	----
28115LF	1" x 3/4"	----

**FACE BUSHING**



LF110F

PART #	SIZE	
28121LF	1/4" x 1/8"	----
28116LF	3/8" x 1/4"	----
28117LF	1/2" x 3/8"	----
28118LF	3/4" x 1/2"	----

**LEAD FREE PIPE**

LEAD FREE BRASS FITTINGS

**CLOSE NIPPLE**



LF112

PART #	SIZE	
28131LF	1/8"	----
28132LF	1/4"	----
28133LF	3/8"	----
28134LF	1/2"	----
28135LF	3/4"	----

**LONG NIPPLE**



LF113

PART #	SIZE	
28140LF	1/8" x 1-1/2"	----
28141LF	1/8" x 2"	----
28142LF	1/8" x 2-1/2"	----
28143LF	1/8" x 3"	----
28144LF	1/4" x 1-1/2"	----
28145LF	1/4" x 2"	----
28146LF	1/4" x 2-1/2"	----
28147LF	1/4" x 3"	----
28148LF	3/8" x 1-1/2"	----
28149LF	3/8" x 2"	----

**HEX NIPPLE**



LF23325X

LF122

PART #	SIZE	
28211LF	1/8"	----
28212LF	1/4"	----
28213LF	3/8"	----
28214LF	1/2"	----
28215LF	3/4"	----
28216LF	1"	----

**LONG HEX NIPPLE**



PART #	SIZE	
28212EHLF	1/4"	----

**REDUCING HEX NIPPLE**



LF123

PART #	SIZE	
28220LF	1/4" x 1/8"	----
28221LF	3/8" x 1/8"	----
28222LF	3/8" x 1/4"	----
28223LF	1/2" x 1/8"	----
28224LF	1/2" x 3/8"	----
28225LF	3/4" x 1/2"	----

**REDUCING COUPLING**



LF119

PART #	SIZE	
28181LF	1/4" x 1/8"	----
28182LF	3/8" x 1/8"	----
28183LF	3/8" x 1/4"	----
28180LF	1/2" x 1/8"	----
28184LF	1/2" x 1/4"	----
28185LF	1/2" x 3/8"	----
28189LF	3/4" x 1/2"	----

**ADAPTER**



LF120

PART #	SIZE	
28190LF	1/8" x 1/8"	----
28191LF	1/4" x 1/8"	----
28192LF	1/4" x 1/4"	----
28198LF	3/8" x 1/8"	----
28193LF	3/8" x 1/4"	----
28194LF	3/8" x 3/8"	----
28199LF	1/2" x 1/4"	----
28195LF	1/2" x 3/8"	----
28196LF	1/2" x 1/2"	----
28208LF	3/4" x 1/2"	----
28209LF	3/4" x 3/4"	----

\* Forged and Barstock shapes may be substituted for one another in Lead Free.

**SHORT BARSTOCK\* STREET ELBOW 90°**



PART #	SIZE	
28156SLF	1/8"	----
28157SLF	1/4"	----
28158SLF	3/8"	----
28159SLF	1/2"	----
28160SLF	3/4"	----

**BARSTOCK\* ST ELBOW**



LF116

PART #	SIZE	
28156LF	1/8"	----
28157LF	1/4"	----
28158LF	3/8"	----
28159LF	1/2"	----
28160LF	3/4"	----

**STREET ELBOW 90° FORGED\***



PART #	SIZE	
28165LF	1/8"	----
28166LF	1/4"	----
28167LF	3/8"	----
28168LF	1/2"	----
28169LF	3/4"	----

**REDUCING STREET ELBOW FORGED\***



PART #	SIZE	
28261LF	1/4" x 1/8"	----
28262LF	1/4" x 3/8"	----
28264LF	3/8" x 1/2"	----
28265LF	1/2" x 3/8"	----



**STREET ELBOW 45°**



LF124

PART #	SIZE	
28230LF	1/8"	----
28231LF	1/4"	----
28232LF	3/8"	----
28233LF	1/2"	----
28234LF	3/4"	----

**STREET TEE BARSTOCK**



LF127

PART #	SIZE	
28245LF	1/8"	----
28246LF	1/4"	----
28247LF	3/8"	----
28248LF	1/2"	----
28249LF	3/4"	----

**STREET TEE FORGED**



PART #	SIZE	
28253LF	1/8"	----
28254LF	1/4"	----
28255LF	3/8"	----

**ELBOW BARSTOCK**



PART #	SIZE	
28266BLF	1/8"	----
28267BLF	1/4"	----

**ELBOW FORGED**



PART #	SIZE	
28266LF	1/8"	----
28267LF	1/4"	----
28268LF	3/8"	----
28269LF	1/2"	----

**REDUCING ELBOW**



PART #	SIZE	
28273LF	1/4" x 1/8"	----
28272LF	3/8" x 1/8"	----
28275LF	3/8" x 1/4"	----
28276LF	1/2" x 3/8"	----

**TEE BARSTOCK**



LF131

PART #	SIZE	
28281LF	1/8"	----
28282LF	1/4"	----
28283LF	3/8"	----
28284LF	1/2"	----

**TEE FORGED**



PART #	SIZE	
28290LF	1/8"	----
28291LF	1/4"	----
28292LF	3/8"	----

**PUSH-ON**

**MALE ADAPTER**



PART #	HOSE I.D. X MALE NPTF	
30200LF	1/4" x 1/8"	----
30201LF	1/4" x 1/4"	----
30203LF	3/8" x 1/4"	----
30204LF	3/8" x 3/8"	----
30206LF	1/2" x 3/8"	----
30207LF	1/2" x 1/2"	----

**SAE/JIC DUAL 45°/37° FEMALE SWIVEL**



PART #	HOSE I.D. X FEMALE 45°/37°	
30230LF	1/4" x 1/4"	----



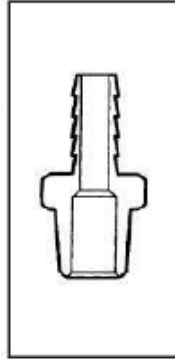
# LEAD FREE HOSE BARBS

LEAD FREE BRASS FITTINGS

LEAD FREE

## BRASS HOSE BARBS LEAD FREE

- One piece, except swivels (nut and stem)
- Used with plastic tubing or rubber hose
- -40° to 200° F. temperature range
- Intended for use with hose clamp or crimp type ferrule
- Barbed edges provide positive connection
- Excellent vibration resistance
- Barb size is hose I.D.



### RIGID MALE ADAPTER



LF29

PART #	HOSE I.D. X MALE NPTF	
32001LF	1/8" x 1/8"	----
32027LF	1/8" x 1/4"	----
32002LF	3/16" x 1/8"	----
32003LF	3/16" x 1/4"	----
32004LF	1/4" x 1/8"	----
32005LF	1/4" x 1/4"	----
32006LF	1/4" x 3/8"	----
32007LF	1/4" x 1/2"	----
32954LF	1/4" x 3/4"	----
32008LF	5/16" x 1/8"	----
32009LF	5/16" x 1/4"	----
32010LF	5/16" x 3/8"	----
32011LF	3/8" x 1/8"	----
32012LF	3/8" x 1/4"	----
32013LF	3/8" x 3/8"	----
32014LF	3/8" x 1/2"	----
32026LF	3/8" x 3/4"	----
32015LF	1/2" x 1/4"	----
32016LF	1/2" x 3/8"	----
32017LF	1/2" x 1/2"	----
32018LF	1/2" x 3/4"	----
32019LF	5/8" x 3/8"	----
32020LF	5/8" x 1/2"	----
32021LF	5/8" x 3/4"	----
32306LF	3/4" x 3/8"	----
32022LF	3/4" x 1/2"	----
32023LF	3/4" x 3/4"	----
32024LF	1" x 3/4"	----
32025LF	1" x 1"	----

### FORGED HOSE BARB 90° ELBOW



LF29EBS

PART #	HOSE I.D. X MALE NPTF	
32038LF	1/4" x 1/8"	----
32039LF	1/4" x 1/4"	----
32309LF	1/4" x 3/8"	----
32036LF	5/16" x 1/8"	----
32040LF	5/16" x 1/4"	----
32046LF	3/8" x 1/8"	----
32041LF	3/8" x 1/4"	----
32042LF	3/8" x 3/8"	----
32047LF	3/8" x 1/2"	----
32048LF	1/2" x 1/4"	----
32043LF	1/2" x 3/8"	----
32311LF	1/2" x 1/2"	----
32313LF	3/4" x 1/2"	----

### MENDER/ SPLICER



PART #	HOSE I.D. X HOSE I.D.	
32091LF	1/8"	----
32092LF	3/16"	----
32093LF	1/4"	----
32094LF	5/16"	----
32095LF	3/8"	----
32096LF	1/2"	----
32097LF	5/8"	----
32098LF	3/4"	----

## RIGID FEMALE ADAPTER



LF29F

PART #	HOSE I.D. X FE-MALE NPTF	
32050LF	1/8" x 1/8"	----
32317LF	1/8" x 1/4"	----
32051LF	3/16" x 1/8"	----
32062LF	3/16" x 1/4"	----
32052LF	1/4" x 1/8"	----
32053LF	1/4" x 1/4"	----
32054LF	1/4" x 3/8"	----
32441LF	1/4" x 1/2"	----
32055LF	5/16" x 1/8"	----
32056LF	5/16" x 1/4"	----
32318LF	5/16" x 3/8"	----
32057LF	3/8" x 1/8"	----
32058LF	3/8" x 1/4"	----
32059LF	3/8" x 3/8"	----
32063LF	3/8" x 1/2"	----
32064LF	1/2" x 1/4"	----
32060LF	1/2" x 3/8"	----
32061LF	1/2" x 1/2"	----
32065LF	3/4" x 3/4"	----

### HOSE BARB TEES



PART #	HOSE BARB SIZE	
32365LF	1/4"	----
32366LF	5/16"	----
32126LF	3/8"	----

### FEMALE 45° FLARE SWIVEL



PART #		
32101LF	1/4" x 1/4"	----
32105LF	3/8" x 3/8"	----
32100LF	1/2" x 1/2"	----

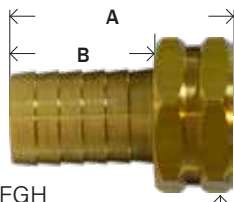
### LEAD FREE MINI BALL VALVES BARB X BARB



PART #	H.B. X H.B.	
944142LF	1/4"	----
944134LF	3/8"	----

**BARSTOCK BRASS GARDEN HOSE COUPLINGS**

**FEMALE SWIVEL ONLY**

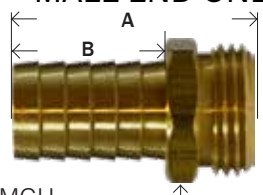


LF29FGH

• WASHER INCLUDED

PART #	HOSE BARB X FGH	
30031LF	3/8" x 3/4"	----
30032LF	1/2" x 3/4"	----
30033LF	5/8" x 3/4"	----

**MALE END ONLY**



LF29MGH

PART #	HOSE BARB X MGH	
30039LF	3/8" x 3/4"	----
30040LF	1/2" x 3/4"	----
30041LF	5/8" x 3/4"	----
30042LF	3/4" x 3/4"	----

**GARDEN HOSE COUPLING**



• WASHER INCLUDED

PART #	HOSE BARB	
30025LF	3/8"	----
30027LF	1/2"	----
30028LF	5/8"	----
30029LF	3/4"	----

**SWIVEL - FGH X FGH**



LFS3

• WASHER INCLUDED

PART #	FGH X FGH	
30011LF	3/4" x 3/4"	----
30012LF	no swivel	----

**SWIVEL - FGH X FEMALE PIPE**



LFS1  
LFS2

• WASHER INCLUDED

PART #	FGH X FEMALE NPTF	
30001LF	3/4" x 1/2"	----
30006LF	3/4" x 3/4"	----

**RIGID - FGH X FEMALE PIPE**



• WASHER INCLUDED

PART #	FGH X FEMALE NPTF	
30016LF	3/4" x 1/8"	----
30078LF	3/4" x 1/2"	----
30083LF	3/4" x 3/4"	----

**SWIVEL - FGH X MALE PIPE**



• WASHER INCLUDED

PART #	FGH X MALE NPTF	
30047LF	3/4" x 1/4"	----
30048LF	3/4" x 3/8"	----
30049LF	3/4" x 1/2"	----

**RIGID - FGH X MALE PIPE**



• WASHER INCLUDED

PART #	FGH X FEMALE NPTF	
30088LF	3/4" x 1/2" (1/2" SWT)	----

**RIGID - MGH X MGH**



LF85GHT

PART #	MGH X MGH	
30098LF	3/4" x 3/4" (1/2" FIP)	----

**RIGID - MGH X FEMALE PIPE**



LF110GH-124

PART #	MGH X FEMALE NPTF	
30066LF	3/4" x 1/4"	----
30067LF	3/4" x 3/8"	----
30068LF	3/4" x 1/2"	----
30073LF	3/4" x 3/4"	----

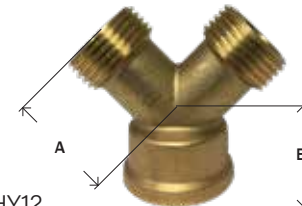
**RIGID - MGH X MALE PIPE**



LF68GH1216

PART #	MGH X MALE NPTF	
30052LF	3/4" x 1/4"	----
30053LF	3/4" x 3/8"	----
30058LF	3/4" x 1/2"	----
30058SLF	3/4" x 1/2" (1/2" SWT)	----
30063LF	3/4" x 3/4" x 1/2"	----

**CAST BRASS HOSE - "Y" CONNECTOR**



LFHY12

PART #	SIZE FGH X MGH(2)	
30140LF	3/4"	----

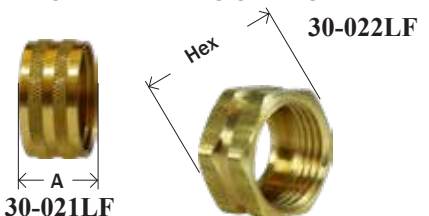
**GARDEN HOSE CAP**



LFHC-12W

PART #	SIZE	
30103LF	3/4" Die Cast	----

**GARDEN HOSE NUT**



PART #	SIZE	
30021LF	Knurled	----
30022LF	Hex Nut	----

**LEAD FREE FLARE**  
LEAD FREE BRASS FITTINGS

**45° s.a.e. brass flare fittings**

- Two pieces construction – nut and body
- Use with copper, brass, aluminum, or steel tubing
- -40° to +250° F. temperature range
- Resists mechanical pullout
- Easy to disassemble and can be reassembled many times, with no effect on the seal
- Primary uses: fuel equipment, plumbing, gases, refrigeration, and vacuum lines
- Meet functional requirements for SAE, ASME and ASA codes for pressure piping



**TO ASSEMBLE:**

- 1 Cut smooth, square end on tubing
- 2 Slide nut onto tube - threads facing end
- 3 Flare end of tube
- 4 Thread nut to body until snug, then

Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Thread Size	5/16-24	3/8-24	7/16-20	1/2-20	5/8-18	11/16-16	3/4-16	7/8-14	11/16-14	1-1/4-12	1 3/8-12

**SHORT ROD NUT**



LF41S  
LF41XS

PART #	THREAD SIZE UNF	
10013LF	1/8"	----
10014LF	3/16"	----
10015LF	1/4"	----
10016LF	5/16"	----
10017LF	3/8"	----
10018LF	7/16"	----
10019LF	1/2"	----
10020LF	5/8"	----
10021LF	3/4"	----

**SHORT FORGED NUT**



PART #	THREAD SIZE UNF	
10039LF	1/4"	----
10041LF	3/8"	----
10052LF	3/8" x 1/4"	----
10042LF	1/2"	----
10054LF	1/2" x 3/8"	----
10043LF	5/8"	----
10056LF	5/8" x 1/2"	----
10044LF	3/4"	----

**UNION**



LF242

PART #	THREAD SIZE UNF	
10104LF	1/8"	----
10105LF	3/16"	----
10106LF	1/4"	----
10107LF	5/16"	----
10108LF	3/8"	----
10118LF	3/8" x 1/4"	----
10109LF	1/2"	----
10120LF	1/2" x 1/4"	----
10121LF	1/2" x 3/8"	----
10110LF	5/8"	----
10122LF	5/8" x 3/8"	----
10123LF	5/8" x 1/2"	----
10111LF	3/4"	----

**CAP**



LF40

PART #	THREAD SIZE UNF	
10075LF	1/4"	----
10076LF	5/16"	----
10077LF	3/8"	----
10078LF	1/2"	----
10079LF	5/8"	----
10080LF	3/4"	----

**UNION TEE**



PART #	SIZE (1 X 2 X 3)	
10157LF	1/8"	----
10158LF	3/16"	----
10159LF	1/4"	----
10160LF	5/16"	----
10161LF	3/8"	----
10162LF	1/2"	----
10163LF	5/8"	----

**REDUCING UNION TEE**

PART #	SIZE (1 X 2 X 3)	
10174LF	3/8" x 3/8" x 1/4"	----
10175LF	3/8" x 3/8" x 1/2"	----
10181LF	1/2" x 1/2" x 3/8"	----
10182LF	1/2" x 1/2" x 5/8"	----
10189LF	5/8" x 5/8" x 1/2"	----

**PLUG**



LF39

PART #	THREAD SIZE UNF	
10064LF	1/4"	----
10066LF	3/8"	----
10067LF	1/2"	----
10068LF	5/8"	----

**FEMALE ADAPTER**



LF46

PART #	MALE FLARE X FEMALE NPTF	
10227LF	3/16" x 1/8"	----
10228LF	1/4" x 1/8"	----
10229LF	1/4" x 1/4"	----
10230LF	1/4" x 3/8"	----
10231LF	1/4" x 1/2"	----
10232LF	5/16" x 1/8"	----
10233LF	5/16" x 1/4"	----
10234LF	3/8" x 1/8"	----
10235LF	3/8" x 1/4"	----
10236LF	3/8" x 3/8"	----
10237LF	3/8" x 1/2"	----
10238LF	3/8" x 3/4"	----
10239LF	1/2" x 1/4"	----
10240LF	1/2" x 3/8"	----
10241LF	1/2" x 1/2"	----
10242LF	1/2" x 3/4"	----
10243LF	5/8" x 3/8"	----
10244LF	5/8" x 1/2"	----
10245LF	5/8" x 3/4"	----
10247LF	3/4" x 3/4"	----

**MALE BRANCH TEE**



PART #	SIZE	
10204LF	1/4" x 1/8"	----
10205LF	1/4" x 1/4"	----
10206LF	1/4" x 3/8"	----
10210LF	3/8" x 1/4"	----
10211LF	3/8" x 3/8"	----
10212LF	3/8" x 1/2"	----
10214LF	1/2" x 3/8"	----
10215LF	1/2" x 1/2"	----
10218LF	5/8" x 1/2"	----

**FORGED SWIVEL**



LF700

PART #	FEMALE FLARE UNF	
10481LF	1/4"	----
10482LF	5/16"	----
10483LF	3/8"	----
10484LF	1/2"	----
10485LF	5/8"	----
10487LF	3/8" x 1/4"	----
10488LF	1/2" x 3/8"	----

**MALE ADAPTER**



LF48  
LF248

PART #	MALE FLARE X MALE NPTF	
10253LF	1/8" x 1/8"	----
10254LF	3/16" x 1/8"	----
10252LF	3/16" x 1/4"	----
10255LF	1/4" x 1/8"	----
10256LF	1/4" x 1/4"	----
10256EHLF	1/4" x 1/4"	----
10257LF	1/4" x 3/8"	----
10258LF	1/4" x 1/2"	----
10259LF	5/16" x 1/8"	----
10260LF	5/16" x 1/4"	----
10261LF	5/16" x 3/8"	----
10251LF	5/16" x 1/2"	----
10262LF	3/8" x 1/8"	----
10263LF	3/8" x 1/4"	----
10264LF	3/8" x 3/8"	----
10265LF	3/8" x 1/2"	----
10266LF	3/8" x 3/4"	----
10267LF	1/2" x 1/4"	----
10268LF	1/2" x 3/8"	----
10269LF	1/2" x 1/2"	----
10270LF	1/2" x 3/4"	----
10272LF	5/8" x 3/8"	----
10273LF	5/8" x 1/2"	----
10274LF	5/8" x 3/4"	----
10275LF	3/4" x 1/2"	----
10276LF	3/4" x 3/4"	----
10278LF	7/8" x 3/4"	----

**UNION ELBOW**



BS  
LF255B

PART #	FLARE X FLARE	
10406LF	1/4"	----
10407LF	3/8"	----
10409LF	1/2"	----
10419LF	1/2" x 3/8"	----

**FLARE X FIP TEE**



PART #	FLARE X FLARE X FE PIPE	
10434LF	1/2" x 1/2" x 1/2"	----

**90° MALE ELBOW**



LF249B  
BS

**FORGED ELBOW**

PART #	FLARE X MALE PIPE	
10284LF	3/16" x 1/8"	----
10286LF	1/4" x 1/8"	----
10287LF	1/4" x 1/4"	----
10288LF	1/4" x 3/8"	----
10289LF	1/4" x 1/2"	----
10290LF	5/16" x 1/8"	----
10291LF	5/16" x 1/4"	----
10293LF	3/8" x 1/8"	----
10294LF	3/8" x 1/4"	----
10295LF	3/8" x 3/8"	----
10296LF	3/8" x 1/2"	----
10297LF	3/8" x 3/4"	----
10298LF	1/2" x 1/4"	----
10299LF	1/2" x 3/8"	----
10300LF	1/2" x 1/2"	----
10301LF	1/2" x 3/4"	----
10302LF	5/8" x 3/8"	----
10303LF	5/8" x 1/2"	----
10304LF	5/8" x 3/4"	----
10305LF	3/4" x 1/2"	----
10306LF	3/4" x 3/4"	----

**FEMALE ELBOW**



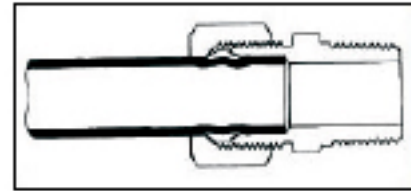
PART #	FLARE X FEMALE PIPE	
10313LF	1/4" x 1/8"	----
10314LF	1/4" x 1/4"	----
10319LF	3/8" x 1/4"	----
10320LF	3/8" x 3/8"	----
10321LF	3/8" x 1/2"	----
10322LF	3/8" x 3/4"	----
10324LF	1/2" x 3/8"	----
10325LF	1/2" x 1/2"	----
10326LF	1/2" x 3/4"	----
10328LF	5/8" x 1/2"	----
10329LF	5/8" x 3/4"	----
10331LF	3/4" x 3/4"	----

**LEAD FREE COMPRESSION**

LEAD FREE BRASS FITTINGS

**BRASS COMPRESSION FITTINGS - LEAD FREE**

- Three piece construction- nut, sleeve (or ferrule) and body
- Use with copper, aluminum, or plastic tubing (plastic requires 60P sleeve and 61P insert)
- -40° to +250° F. temperature range
- Easy to disassemble, no flaring tool required
- Primary uses: water, gasoline, oil, and vacuum lines



**TO ASSEMBLE:**

- 1 Cut smooth, square end on tubing
- 2 Slide nut, then sleeve onto tube.  
Threads must face end
- 3 Insert tube into fitting
- 4 Thread nut onto fitting until snug, then as follows:

Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8
Thread Size	5/16-24	3/8-24	7/16-24	1/2-24	9/16-24	5/8-24	11/16-20	13/16-18	1-18	1-1/8-18

**BRASS COMPRESSION FITTINGS**

**BRASS SLEEVE**



LF260

• FERRULES

PART #	SIZE	
18001LF	1/8"	----
18002LF	3/16"	----
18003LF	1/4"	----
18004LF	5/16"	----
18005LF	3/8"	----
18006LF	7/16"	----
18007LF	1/2"	----
18008LF	5/8"	----
18009LF	3/4"	----
18010LF	7/8"	----

60 260

**BRASS NUT**



LF261

PART #	SIZE	
18033LF	1/8"	----
18034LF	3/16"	----
18035LF	1/4"	----
18036LF	5/16"	----
18037LF	3/8"	----
18038LF	7/16"	----
18039LF	1/2"	----
18040LF	5/8"	----
18041LF	3/4"	----
18042LF	7/8"	----

**BRASS NUT W/  
CAPTIVE SLEEVE**



LF611X6

PART #	SIZE	
26001LF	1/8"	----
26002LF	3/16"	----
26003LF	1/4"	----
26004LF	5/16"	----
26005LF	3/8"	----
26007LF	1/2"	----
26008LF	5/8"	----
26015LF	3/4"	----
26016LF	7/8"	----

**DELTRIN SLEEVE**



PART #	SIZE	
18015	1/4"	----
18016	5/16"	----
18017	3/8"	----
18018	1/2"	----

60-P

**BRASS INSERT**



• SLEEVE

PART #	SIZE	
22008LF	1/8"	----
22009LF	3/16"	----
22010LF	1/4"	----
22011LF	5/16"	----
22012LF	3/8"	----
22013LF	1/2"	----

**CAP**



PART #	SIZE	
18047LF	1/4"	----
18046LF	5/16	----
18048LF	3/8"	----
18049LF	1/2"	----
18050LF	5/8"	----

61-CC N5CT



**UNION**



LF262

PART #	SIZE	
18062LF	1/8"	----
18063LF	3/16"	----
18064LF	1/4"	----
18065LF	5/16"	----
18066LF	3/8"	----
18067LF	7/16"	----
18068LF	1/2"	----
18069LF	5/8"	----
18070LF	3/4"	----
18071LF	7/8"	----

M-62

**REDUCING UNION**



LF62R

PART #	SIZE	
18076LF	1/4" x 1/8"	----
18077LF	1/4" x 3/16"	----
18078LF	5/16" x 1/4"	----
18079LF	3/8" x 1/4"	----
18080LF	3/8" x 5/16"	----
18081LF	1/2" x 3/8"	----
18082LF	5/8" x 3/8"	----
18083LF	5/8" x 1/2"	----

62-R

**TANK UNION**



LF62T

• DRILLED THROUGH

PART #	SIZE	
18066DLF	3/8"	----
18068DLF	1/2"	----
18069DLF	5/8"	----
18071DLF	7/8"	----

**TEE**



LF264B

PART #	SIZE	
18101LF	1/8"	----
18102LF	3/16"	----
18103LF	1/4"	----
18104LF	5/16"	----
18105LF	3/8"	----
18106LF	1/2"	----
18107LF	5/8"	----
18109LF	7/8"	----

**REDUCING TEE**



LF264B

PART #	SIZE (1 X 2 X 3)	
18114LF	1/4" x 1/4" x 1/8"	----
18110LF	1/4" x 1/4" x 3/8"	----

64-R

**ELBOW**



LF265

PART #	SIZE	
18122LF	1/8"	----
18123LF	3/16"	----
18124LF	1/4"	----
18125LF	5/16"	----
18126LF	3/8"	----
18127LF	1/2"	----
18128LF	5/8"	----
18129LF	3/4"	----
18130LF	7/8"	----
18135LF	3/8" x 1/4"	----
18136LF	1/2" x 3/8"	----
18137LF	5/8" x 3/8"	----

65 BSE2 165C 265C

**FEMALE COUPLING**



LF66  
LF266

PART #	COMP. X FE-MALE NPT	
18142LF	1/8" x 1/8"	----
18143LF	3/16" x 1/8"	----
18144LF	3/16" x 1/4"	----
18145LF	1/4" x 1/8"	----
18146LF	1/4" x 1/4"	----
18147LF	1/4" x 3/8"	----
18148LF	1/4" x 1/2"	----
18149LF	5/16" x 1/8"	----
18150LF	5/16" x 1/4"	----
18151LF	5/16" x 3/8"	----
18152LF	3/8" x 1/8"	----
18153LF	3/8" x 1/4"	----
18154LF	3/8" x 3/8"	----
18155LF	3/8" x 1/2"	----
18156LF	3/8" x 3/4"	----
18157LF	1/2" x 1/4"	----
18158LF	1/2" x 3/8"	----
18159LF	1/2" x 1/2"	----
18160LF	1/2" x 3/4"	----
18161LF	5/8" x 3/8"	----
18162LF	5/8" x 1/2"	----
18163LF	5/8" x 3/4"	----
18164LF	3/4" x 1/2"	----
18165LF	3/4" x 3/4"	----
18167LF	7/8" x 1/2"	----

66

**TANK COUPLING**



• DRILLED THROUGH

COMP X FIP

PART #	SIZE	
18154DLF	3/8" x 3/8"	----
18155DLF	3/8" x 1/2"	----
18158DLF	1/2" x 3/8"	----
18159DLF	1/2" x 1/2"	----
18162DLF	5/8" x 1/2"	----

**COMP X SWEAT ADAPTER**



PART #	SIZE	
18171LF	3/8" x 1/2" nom.swt.	----

**LEAD FREE COMPRESSION**

LEAD FREE BRASS FITTINGS

**MALE ADAPTER**



LF68

COMP X MIP

PART #	SIZE	
18176LF	1/8" x 1/8"	----
18177LF	3/16" x 1/8"	----
18178LF	3/16" x 1/4"	----
18179LF	1/4" x 1/8"	----
18180LF	1/4" x 1/4"	----
18181LF	1/4" x 3/8"	----
18182LF	1/4" x 1/2"	----
18183LF	5/16" x 1/8"	----
18184LF	5/16" x 1/4"	----
18185LF	5/16" x 3/8"	----
18186LF	5/16" x 1/2"	----
18187LF	3/8" x 1/8"	----
18188LF	3/8" x 1/4"	----
18189LF	3/8" x 3/8"	----
18190LF	3/8" x 1/2"	----
18191LF	3/8" x 3/4"	----
18192LF	7/16" x 1/4"	----
18204LF	7/16" x 3/8"	----
18193LF	1/2" x 1/4"	----
18194LF	1/2" x 3/8"	----
18195LF	1/2" x 1/2"	----
18196LF	1/2" x 3/4"	----
18197LF	5/8" x 3/8"	----
18198LF	5/8" x 1/2"	----
18199LF	5/8" x 3/4"	----
18200LF	3/4" x 1/2"	----
18201LF	3/4" x 3/4"	----
18202LF	7/8" x 1/2"	----
18203LF	7/8" x 3/4"	----
18205LF	7/8" x 1"	----

THE MAN WHO HAS NO INNER-LIFE IS A SLAVE TO HIS SURROUNDINGS.

- HENRI FREDERIC AMIEL

**ELBOW**



LF269B  
LF69F

COMP X MIP

PART #	SIZE	
18220LF	1/8" x 1/8"	----
18221LF	3/16" x 1/8"	----
18223LF	3/16" x 1/4"	----
18224LF	1/4" x 1/8"	----
18225LF	1/4" x 1/4"	----
18226LF	1/4" X 3/8"	----
18227LF	1/4" x 1/2"	----
18228LF	5/16" x 1/8"	----
18229LF	5/16" x 1/4"	----
18230LF	5/16" x 3/8"	----
18232LF	3/8" x 1/8"	----
18233LF	3/8" x 1/4"	----
18234LF	3/8" x 3/8"	----
18235LF	3/8" x 1/2"	----
18248LF	3/8" x 3/4"	----
18247LF	7/16" x 1/4"	----
18236LF	1/2" x 1/4"	----
18237LF	1/2" x 3/8"	----
18238LF	1/2" x 1/2"	----
18239LF	1/2" x 3/4"	----
18240LF	5/8" x 3/8"	----
18241LF	5/8" x 1/2"	----
18242LF	5/8" x 3/4"	----
18243LF	3/4" x 1/2"	----
18245LF	3/4" x 3/4"	----

**TANK CONNECTOR**



LF68T

- DRILLED THROUGH

COMP X MIP

PART #	SIZE	
18177TLF	3/16" x 1/8"	----
18208LF	1/4" x 1/8"	----
18209LF	1/4" x 1/4"	----
18210LF	3/8" x 1/4"	----
18211LF	3/8" x 3/8"	----
18212LF	3/8" x 1/2"	----
18213LF	1/2" x 3/8"	----
18214LF	1/2" x 1/2"	----

69 269C BSE1 169C

**FEMALE ELBOW**



COMP X FIP

PART #	SIZE	
18251LF	1/8" x 1/8"	----
18252LF	3/16" x 1/8"	----
18253LF	1/4" x 1/8"	----
18254LF	1/4" x 1/4"	----
18267LF	1/4" x 3/8"	----
18268LF	1/4" x 1/2"	----
18255LF	5/16" x 1/8"	----
18256LF	5/16" x 1/4"	----
18257LF	3/8" x 1/8"	----
18258LF	3/8" x 1/4"	----
18259LF	3/8" x 3/8"	----
18260LF	3/8" x 1/2"	----
18250LF	3/8" x 3/4"	----
18262LF	1/2" x 3/8"	----
18263LF	1/2" x 1/2"	----
18269LF	5/8" x 3/8"	----
18264LF	5/8" x 1/2"	----

**45° ELBOW**



COMP X MIP

PART #	SIZE	
18330LF	1/4" x 1/8"	----
18336LF	1/4" x 1/4"	----
18333LF	3/8" x 1/4"	----
18338LF	3/8" x 3/8"	----
18334LF	1/2" x 3/8"	----
18339LF	1/2" x 1/2"	----
18335LF	5/8" x 1/2"	----

**MALE RUN TEE**



LF272

COMPRESSION X MIP

PART #	SIZE	
18273LF	3/16" x 1/8"	----
18274LF	1/4" x 1/8"	----
18275LF	1/4" x 1/4"	----
18276LF	5/16" x 1/8"	----
18277LF	5/16" x 1/4"	----
18279LF	3/8" x 1/4"	----
18280LF	3/8" x 3/8"	----
18281LF	1/2" x 3/8"	----

**LEAD FREE COMPRESSION**

LEAD FREE BRASS FITTINGS

**MALE BRANCH TEE**



COMP X MIP

PART #	SIZE	
18289LF	1/8" x 1/8"	----
18290LF	3/16" x 1/8"	----
18291LF	1/4" x 1/8"	----
18292LF	1/4" x 1/4"	----
18293LF	5/16" x 1/8"	----
18294LF	5/16" x 1/4"	----
18295LF	3/8" x 1/8"	----
18296LF	3/8" x 1/4"	----
18297LF	3/8" x 3/8"	----
18299LF	1/2" x 3/8"	----
18300LF	1/2" x 1/2"	----
18301LF	5/8" x 1/2"	----

**TEE**



COMP X FIP X MIP

PART #	SIZE	
18307LF	1/4" x 1/8 x 1/8"	----

**TEE**



FIP X MIP X COMP

PART #	SIZE	
18315LF	1/4" x 1/4" x 1/4"	----

**FEMALE BRANCH TEE**



COMP X FIP

PART #	SIZE	
18325LF	3/8" x 1/8"	----
18322LF	3/8" x 1/4"	----
18323LF	3/8" x 3/8"	----
18327LF	5/8" x 1/8"	----

**FEMALE ADAPTER**



COMPRESSION X FEMALE FLARE

PART #	SIZE	
18502LF	1/4" x 1/4"	----

**MALE ADAPTER**



COMPRESSION X MALE FLARE

PART #	SIZE	
18503LF	1/4" x 1/4"	----

**FEMALE ADAPTER (GASKET)**



FEMALE COMPRESSION X COM-

PART #	SIZE	
18500LF	3/8" x 1/4"	----
18501LF	1/2" x 3/8"	----

**FEMALE ADAPTER (GASKET)**



FEMALE FLARE X COMPRESSION

PART #	SIZE	
18510LF	9/16-24 x 3/8	----

**FEMALE ADAPTER (GASKET)**



LF124GH  
LF125GH

FE GARDEN HOSE X COMPRES-

PART #	SIZE	
30050LF	3/4" x 1/4"	----
30051LF	3/4" x 3/8"	----

**SWIVEL ELBOW**



LF69GHS-162

COMP X FE GARDEN HOSE

PART #	SIZE	
30055LF	3/8" x 3/4"	----

• NO NUT & SLEEVE

**LEAD FREE ADD-A-TEE  
COMP X COMP X SWIVEL FE  
COMPRESSION**

- For adding a water line
- Ice makers, Coffee makers and instant hot water systems



• NSF Approved

PART #	MALE & FEM. COMPRESSION X MALE COMP	
935044LF	3/8 x 1/4	----
935045LF	3/8 x 3/8	----

MY MISSION IN LIFE IS NOT MERELY TO SURVIVE, BUT TO THRIVE; AND TO DO SO WITH SOME PASSION, SOME COMPASSION, SOME HUMOR, AND SOME STYLE.

- MAYA ANGELOU

# N/P COMPRESSION/ ICE MAKER KITS/ LEAD FREE BRASS FITTINGS

LEAD FREE BRASS FITTINGS



LEAD FREE

## NICKEL PLATED COMPRESSION FITTINGS

### NUT



PART #	SIZE	
18054LF	1/4"	----
18055LF	3/8"	----
18056LF	1/2"	----
18057LF	5/8"	----

### UNION



PART #	SIZE	
31066LF	3/8"	----
31068LF	1/2"	----

### REDUCING UNION



PART #	SIZE	
31079LF	3/8" x 1/4"	----
31081LF	1/2" x 3/8"	----
31082LF	5/8" x 3/8"	----
31083LF	5/8" x 1/2"	----

### TEE



PART #	SIZE	
31105LF	3/8"	----
31106LF	1/2"	----

### ELBOW



PART #	SIZE	
31126LF	3/8"	
31127LF	1/2"	

### REDUCING ELBOW

PART #	SIZE	
31137LF	5/8" x 3/8"	

### FEMALE COUPLING



PART #	SIZE	
31154LF	3/8" x 3/8"	----
31155LF	3/8" x 1/2"	----
31158LF	1/2" x 3/8"	----
31159LF	1/2" x 1/2"	----

### COMP X SWEAT ADAPTER



PART #	SIZE	
31171LF	3/8" x 5/8" O.D (1/2" Nom. Sweat)	----

### CONNECTOR



PART #	SIZE	
31188LF	3/8" x 1/4"	----
31189LF	3/8" x 3/8"	----
31190LF	3/8" x 1/2"	----
31194LF	1/2" x 3/8"	----
31195LF	1/2" x 1/2"	----
31198LF	5/8" x 1/2"	----

### ELBOW



PART #	SIZE	
31233LF	3/8" x 1/4"	----
31234LF	3/8" x 3/8"	----
31235LF	3/8" x 1/2"	----
31237LF	1/2" x 3/8"	----
31238LF	1/2" x 1/2"	----

### ELBOW



PART #	SIZE	
31260LF	3/8" x 1/2"	----

### Ice Maker Kits

#### ICE MAKER WATER SUPPLY



- Lead free fittings
- Bag with Header Card
- 25' 1/4" O.D. Polyethylene Tubing - 979215

- Self Piercing Saddle Valve
- 1/4" O.D. Compression x 1/8" MIP Elbow & Adapter
- 1/4" O.D. Compression Union
- 1/4" Inserts & Sleeves

PART #	DESCRIPTION	
43265LF	Kit	----
979215	1/4" OD, 25' Tube	----

#### ICE-MAKER WATER SUPPLY

- Economy
- 25' Polyethylene Tubing
- Self Piercing Saddle Valve
- 1/4" Compression Union
- 1/4" Inserts & Sleeves



PART #	
43266LF	----

# LEAD FREE NEEDLE VALVES

LEAD FREE BRASS FITTINGS

## COMP X COMP



PART #	COMP X COMP	
46021LF	1/4"	----
46022LF	5/16"	----
46023LF	3/8"	----

## COMP X MALE PIPE



PART #	COMP X MALE PIPE	
46002LF	1/4" x 1/8"	----
46003LF	1/4" x 1/4"	----
46005LF	3/8" x 1/4"	----

## COMP X MALE PIPE-ANGLE



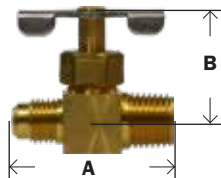
PART #	COMP X MALE PIPE	
46011LF	1/4" x 1/8"	----
46012LF	1/4" x 1/4"	----
46013LF	5/16" x 1/8"	----
46015LF	3/8" x 1/8"	----
46016LF	3/8" x 1/4"	----

## FLARE X FLARE



PART #	COMP X COMP	
46045LF	1/4"	----
46046LF	3/8"	----

## FLARE X MALE PIPE



PART #	MALE FLARE X MALE PIPE	
46029LF	1/4" x 1/4"	----

## FEMALE PIPE X FEMALE PIPE



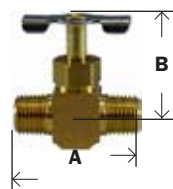
PART #	FEMALE X FEMALE	
46055LF	1/8" x 1/8"	----
46056LF	1/4" x 1/4"	----

## MALE X FEMALE PIPE



PART #	FEMALE X MALE	
46060LF	1/8" x 1/8"	----
46061LF	1/4" x 1/4"	----

## MALE PIPE TO MALE PIPE



PART #	MALE PIPE X MALE PIPE	
46051LF	1/4"	----

## VALVE WITH TEE



PART #	SIZE	
46175LF	1/4" x 3/8"	----
46177LF	1/4" x 5/8"	----
46174LF	3/8" x 3/8"	----

## VALVE WITH SADDLE FITS up to 3/4" pipe



PART #	SIZE	
46091LF	1/4"	----
46092LF	5/16"	----
46093LF	3/8"	----

## BRASS SADDLE



PART #	SIZE	
46099LF	1/8"	----

## SELF PIERCING SADDLE VALVES

- 1/4 Tube O.D.

### SELF PIERCING NEEDLE VALVE KIT #M-104-VSP

- INDIVIDUALLY BAGGED WITH NEEDLE VALVE
- SADDLE CLAMP
- 2 NUTS
- 2 BOLTS & WASHERS

Has brass sleeve for copper tube installation & delrin

sleeve & brass insert for plastic tube installation.



PART #		
46090ALF	Solid Pin	----
46090HLF	Hollow Pin	----



**SUPPLY STOPS/ SS SUPPLY CONNECTORS**

LEAD FREE BRASS FITTINGS

LEAD FREE

**SUPPLY STOPS - 1/4 TURN**

- 100% Pressure Leak Tested
- High Performance Teflon Seats
- Individually Boxed
- Conventional Oval Handle Design
- Meets or Exceeds ASME A112.18.1



**ANGLE STOPS**

PART #	X 3/8 COMPRESSION	
746436	LF 3/8 Female Iron Pipe	----
746437	LF 1/2 Nominal Pex x 1/4 Comp.	----
746438	LF 1/2 Nominal Pex	----
746446	LF 1/2 Female Iron Pipe	----
746456	LF 5/8 Compression	----
746457	LF 5/8 Compression Contractor Pack bagged less 3/8" Nut & Ferrule	----
746466	LF 1/2 Nominal Sweat	----



**STRAIGHT STOPS**

PART #	X 3/8 COMPRESSION	
746506	LF 3/8 Compression	----
746536	LF 3/8 Female Iron Pipe	----
746537	LF 1/2 Nominal Pex x 1/4 Comp.	----
746538	LF 1/2 Nominal Pex	----
746546	LF 1/2 Female Iron Pipe	----
746556	LF 5/8 Compression	----
746566	LF 1/2 Nominal Sweat	----
746567	LF 1/2 Socket CPVC	----



**3 WAY STOPS**

PART #	DESCRIPTION	
746439	LF 5/8 Compression x 3/8 Compression x 1/4 Compression	----
746440	LF 5/8 Compression x 3/8 Compression x 3/8 Compression	----

**LEAD FREE**

**AB1953/S.152 COMPLIANT**

Meets S.3874/ Public Law No. 111-380 Reduction of Lead in Drinking Water Act

**CONNECTORS**

- Marine Grade Stainless Steel Braid
  - Precision 12 Point Crimp
  - Heavy duty Brass Inserts
- Chloramine/ Chlorine Resistant Inner Liner

**LAVATORY**



3/8 COMPRESSION X 3/8 COMPRESSION

PART #	LENGTH	
922012	12"	----
922016	16"	----
922020	20"	----
922030	30"	----
922036	36"	----



3/8 COMPRESSION X 1/2 FEMALE IRON PIPE

922112	12"	----
922116	16"	----
922120	20"	----
922130	30"	----
922136	36"	----



1/2 FEMALE IRON PIPE X 1/2 FEMALE IRON PIPE

922412	12"	----
922416	16"	----
922420	20"	----
922430	30"	----
922436	36"	----

**BALLCOCK**



3/8 COMPRESSION X 7/8 BALLCOCK

923209	9"	----
923212	12"	----
923216	16"	----
923220	20"	----



1/2 FEMALE IRON PIPE X 7/8 BALLCOCK

923509	9"	----
923512	16"	----
923520	20"	----

**SS SUPPLY CONNECTORS**

LEAD FREE BRASS FITTINGS

- Marine Grade Stainless Steel Braid
- Precision 12 Point Crimp
- Heavy duty Brass Inserts
- Chloramine/ Chlorine Resistant Inner Liner

**LEAD FREE  
AB1953/S.152  
Compliant**

Meets S.3874/ Public Law No. 111-380  
Reduction of Lead in Drinking Water  
Act

- 100% Pressure Leak Tested
- High Performance Teflon Seats
- Individually Boxed
- Conventional Oval Handle Design
- Meets or Exceeds ASME A112.18.1

**ICE MAKER**



1/4 COMPRESSION X 1/4 COMPRESSION

PART #	LENGTH	
923112	12"	----
923124	24"	----
923136	36"	
923148	48"	
923161	60"	
923196	96"	----

**DISHWASHER**

3/8 COMPRESSION X 3/8 COMPRESSION

922009	9"	
922012	12"	
922024	24"	
922030	30"	
922036	36"	
922048	48"	----
922060	60"	----
922072	72"	----
922096	96"	----



3/8 COMPRESSION X 3/8 MALE IRON PIPE ELBOW

PART #	L	
923648	48"	----
923660	60"	----
923672	72"	----
923684	84"	----



3/8 COMPRESSION X 3/4 FEMALE GARDEN HOSE ELBOW

924248	48"	----
924260	60"	----
924272	72"	----
924284	84"	----
924297	120"	----

**WASHING MACHINE**



3/4 FEMALE GARDEN HOSE X 3/4 FEMALE GARDEN HOSE

923936	36"	----
923948	48"	----
923960	60"	----
923972	72"	----

**WATER HEATER**



3/8 COMPRESSION X 3/4 FEMALE IRON PIPE

PART #	L	
922712	12"	----
922718	18"	----
922724	24"	----



7/8 COMPRESSION X 3/4 FEMALE IRON PIPE

922812	12"	----
922818	18"	----
922824	24"	----

3/4 MALE IRON PIPE X 3/4 FEMALE IRON PIPE

922912	12"	----
922918	18"	----
922924	24"	----



3/4 FEMALE IRON PIPE X 3/4 FEMALE IRON PIPE

924115	12"	----
924118	18"	----
924124	24"	----

**PVC SUPPLY CONNECTORS**

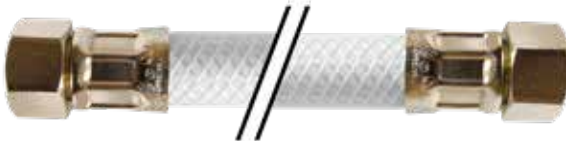
LEAD FREE BRASS FITTINGS

- Reinforced Flexible PVC
- Heavy Duty Brass Inserts
- Precision 12 Point Crimp

**LEAD FREE  
AB1953/S.152  
Compliant**

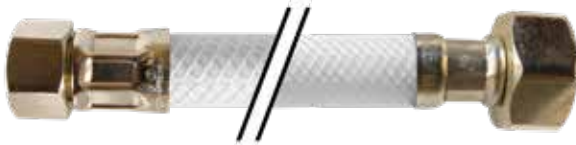
Meets S.3874/ Public Law No. 111-380 Reduction of Lead in Drinking Water Act

**LAVATORY**



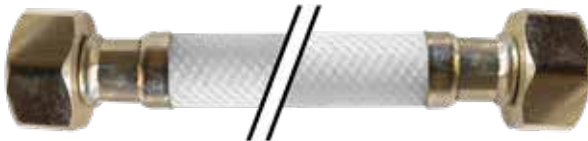
3/8 COMPRESSION X 3/8 COMPRESSION

PART #	LENGTH	
920012	12"	
920016	16"	
920020	20"	
920030	30"	
920036	36"	



3/8 COMPRESSION X 1/2 FEMALE IRON PIPE

920112	12"	
920116	16"	
920120	20"	
920130	30"	
920136	36"	



1/2 FEMALE IRON PIPE X 1/2 FEMALE IRON PIPE

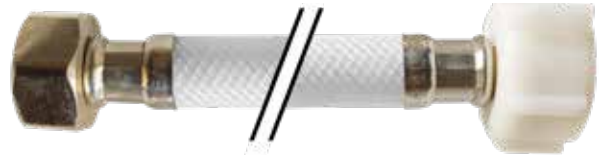
920412	12"	
920416	16"	
920420	20"	
920430	30"	
920436	36"	
920448	48"	

**BALLCOCK**



3/8 COMPRESSION X 7/8 BALLCOCK

921209	9"	
921212	12"	
921216	16"	
921220	20"	



1/2 FEMALE IRON PIPE X 7/8 BALLCOCK

921509	9"	
921512	12"	
921516	16"	
921520	20"	

YOUR WORK IS GOING TO FILL A LARGE PART OF YOUR LIFE, AND THE ONLY WAY TO BE TRULY SATISFIED IS TO DO WHAT YOU BELIEVE IS GREAT WORK. AND THE ONLY WAY TO DO GREAT WORK IS TO LOVE WHAT YOU DO. IF YOU HAVEN'T FOUND IT YET, KEEP LOOKING. DON'T SETTLE. AS WITH ALL MATTERS OF THE HEART, YOU'LL KNOW WHEN YOU FIND IT.

- STEVE JOBS

**TRANSITION FITTINGS**

LEAD FREE BRASS FITTINGS

**BRASS CPVC  
FEMALE ADAPTER**



PART#	SIZE	
35403LF	1/2"	
35404LF	3/4"	
35405LF	1"	
35406LF	1-1/4"	
35407LF	1-1/2"	
35408LF	2	

**BRASS CPVC  
MALE ADAPTER**



PART#	SIZE	
35413LF	1/2"	
35414LF	3/4"	
35415LF	1"	
35416LF	1-1/4"	
35417LF	1-1/2"	
35418LF	2	

**LEAD FREE CPVC DROP EAR ELBOW**



PART#	SIZE	
35420LF	1/2"	

**STAINLESS STEEL CPVC  
MALE ADAPTER**



PART#	SIZE	
35413SS	1/2"	
35414SS	3/4"	
35415SS	1"	
35416SS	1-1/4"	
35417SS	1-1/2"	
35418SS	2	

**STAINLESS STEEL CPVC  
FEMALE ADAPTER**



PART#	SIZE	
35403SS	1/2"	
35404SS	3/4"	
35405SS	1"	
35406SS	1-1/4"	
35407SS	1-1/2"	
35408SS	2	

**STAINLESS STEEL  
CPVC DROP EAR ELBOW**



PART#	SIZE	
35420SS	1/2"	

**DISPLAY**  
BRASS FITTINGS

**FITTING ASSORTMENTS AND DISPLAYS**  
**MAKE YOUR OWN ASSORTMENTS WITH OUR DIFFERENT SIZE OF BINS**



Fittings Assortments and Displays are available for most product categories. These customer-friendly modular bin displays keep products organized for easier product maintenance. Header cards are also available to assist in proper product/sizing selection. Lift product sales and satisfy customers with these best in industry merchandisers.

- Bin labels color coded by category
- Easy to shop bins keep products organized
- Space saving slider racks available

For more information, just ask. Bins can be ordered with our without fittings. The Merchandising Kit is the Bins, Labels and headers provided, not the gondola.

FITTINGS ONLY	SIZE	MERCHANDISING KIT	COMPLETE	
<b>FLARE/ COMPRESSION</b>				
97551	Expanded Flare LF	97553	97550	----
97561	Expanded Comp LF	97563	97560	----
97511	Lead Free Compression/ Flare-Basic - LF	97513	97510	----
<b>NIPPLES AND LF CAST FITTINGS</b>				
97436	Stainless Steel Nipples And Fittings	97438	97435	----
97446	Stainless Steel Fittings	97448	97445	----
90636	LF Brass Pipe Nipples - Asst.	90638	90635	----
97646	LF Bronze Fittings - Asst.	97648	97645	
<b>PIPE AND BARB</b>				
97571	Lead Free Pipe And Hose Barb - LF	97573	97570	----
90691	Nylon Fittings	90693	90690	----
97811	Pneumatic Tools Fittings Assortment	97823	97825	----
<b>MARINE</b>				
97817	Marine - Pipe & Barb	97863	97865	----
97818	Marine - Brass Nipples & Bronze Fittings	97873	97875	----
97819	Marine - Nylon	97883	97885	----
97820	Marine - The Big 'Un	97893	97895	
<b>BEVERAGE</b>				
97821	LF Brass & Copper Tubing Beverage Assortment	97903	97905	----
97822	PTC NSF Fittings & Plastic Tubing Beverage Assortment	97913	97915	----
97824	SS Beverage Fittings and Clearbraided Beverage Assortment	97923	97925	----
<b>TRUCK AND AUTO</b>				
97810	Truck & Auto Assortments	97803	97805	----
97812	DOT - Nylon Air Brake Assortment	97833	97835	----
97814	DOT - Brass Push-To-Connect Assortment	97843	97845	----
97816	DOT - Composite Push-To-Connect Assortment	97853	97855	



**GONDOLA**

Gondolas may be purchased from your local Lozier distributor.

**SLIDER KIT**



PART#	SIZE	
90507	4x4 - No Bins just slider frame	----

**LABELS**

Labels are provided when you order an assortment or you can print out your own labels on our website when you create your own assortment.

Add - **LAB** to part# for the assortment on the previous page to order just the labels.



See part # for your assortment or print out your own.

**BINS**

Bins are offered in 3 sizes - 4,5 and 6 across. These bins may be attached to a gondola or peg board wall to make a display. They are made of clear, strong plastic.

**6 ACROSS**



**5 ACROSS**



**4 ACROSS**



PART#	SIZE	
9050004	4 BIN	----
9050005	5 BIN	----
9050006	6 BIN	----

**PACKAGING**

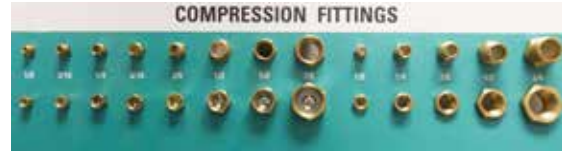
- Tagged
- Bagged



# HEADER CARDS/ SIZE GUIDE



PART#	DESCRIPTION	
90500	HEADER CARD ONLY	----
905001	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905021	HEADER CARD ONLY	----
905031	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905022	HEADER CARD ONLY	----
905032	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905023	HEADER CARD ONLY	----
905033	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905025	HEADER CARD ONLY	----
905035	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905024	HEADER CARD ONLY	----
905034	HEADER CARD FTTGS	----



PART#	DESCRIPTION	
905026	HEADER CARD ONLY	----
905036	HEADER CARD FTTGS	----

**HEADER CARD SIZES AND COLORS MAY VARY**

**VALVES**



VALVES..... 179-225

LEAD FREE BALL VALVES ..... 180-182

LEAD FREE VALVES..... 183

Press Valve..... 184

Pex Valves..... 185

Full Port Ball..... 186

Locking Handle ..... 187

Butterfly Handle..... 187

N/P Ball Valve ..... 188

N/P Ball w/SS Trim ..... 189

Italian Ball Valve ..... 190

M X F Ball Valve..... 191-192

Tee Handle M X F Ball..... 193

M X F Ball Locking handle ..... 194

Spring Handle Ball Valve..... 195

Right Angle Ball valve ..... 195

Wye, 3-Way Ball Valve..... 196

Safety Exhaust Ball Valve..... 196

Gas Valves..... 197

Mini Ball Valves..... 198-201

3-Way Valves..... 202

Strainer Ball Valve ..... 203

Vacuum Breaker/Hose Bibb..... 203

Bent Nose Garden Valve..... 203

Gate Valves..... 204

Quick Opening Gate..... 205

Y Strainer ..... 206

Check Valves..... 207-209

STAINLESS STEEL VALVES..... 210-219

2000# Full Port..... 210

Standard Port..... 211

1,000 PSI Full Port..... 212

SS Mini Ball Valve ..... 213-214

Check Valves..... 215-218

Y-strainer, Globe,Gate ..... 219

Carbon Steel valves ..... 220-223

2,000# Standard Port ..... 220

2,000 # FP 2-Piece..... 221

Hi Pressure 2-Way Valves ..... 222

Hi Pressure 3-Way Balves ..... 222

Check valves-5,000# ..... 223

PVC Valves ..... 224-225

**LEAD FREE BALL VALVES**

VALVES

**LEAD FREE BALL VALVE**

• BRASS • 600PSI • STAINLESS STEEL BALL • FULL PORT

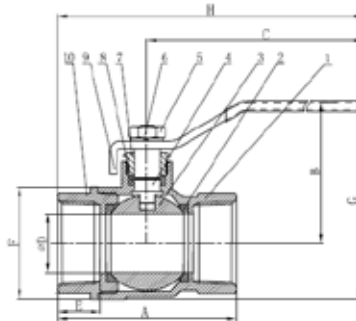


IAMPO IGC 157 - 2004b

Lead Free Brass Ball Valve NPT,Female\*Female  
 Lead Free and dezincification resistant (DZR) material  
 IAPMO listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157  
 CSA listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157  
 Vacuum Services 29.92 inches Hg  
 600 psi (WOG) 150 psi (WSP) Service  
 Thread conform ANSI B1.201  
 Temperature Range : -40° F to 365° F  
 Construction:Forging Brass Body  
 PTFE Ball Seats  
 Blow Out Proof Brass Stem  
 Stainless Steel Ball  
 Steel Handle w/Vinyl Grip  
 Made in China

**FIP X FIP LEAD FREE BALL VALVE**

PART #	SIZE	DN	A	B	C	E	F	G	H	WEIGHT	BOX/CASE	
941151LF	1/4"	0.394	1.73	1.69	3.35	0.453	0.945	2.154	4.331	0.32	10/120	----
941152LF	3/8"	0.394	1.73	1.69	3.35	0.473	0.945	2.154	4.331	0.32	10/120	----
941153LF	1/2"	0.524	1.89	1.73	3.35	0.472	1.083	2.276	4.291	0.36	10/100	----
941154LF	3/4"	0.748	2.28	1.89	3.35	0.563	1.378	2.579	4.488	0.57	10/80	----
941155LF	1"	0.984	2.80	2.14	4.29	0.650	1.772	3.031	5.689	0.94	8/48	----
941156LF	1-1/4"	1.240	3.15	2.32	4.29	0.669	2.165	3.398	5.866	1.30	4/36	----
941157LF	1-1/2"	1.476	3.44	2.66	5.53	0.701	2.50	3.909	7.343	1.92	2/24	----
941158LF	2"	1.949	4.06	3.01	5.53	0.708	3.244	4.638	7.638	3.12	2/12	----
941159LF	2-1/2"	2.52	5.53	4.25	7.76					7.42	2/12	----
941160LF	3"	2.89	6.14	4.58	8.19					11.01	1/6	----
941161LF	4"	3.84	7.79	5.49	9.25					12.10	1/2	----



No	Item	Qty	Material
1	Body	1	Lead Free Brass
2	Seat	2	PTFE
3	Ball	1	Stainless Steel
4	Stem	1	Brass
5	Handle Nut	1	Plated Steel
6	Lock Washer	1	Plated Steel
7	Packing Nut	1	Brass
8	Packing	1	PTFE
9	Handle	1	Plated Steel
10	Cap	1	Lead Free Brass

**SWT X SWT LEAD FREE BALL VALVE**

PART #	SIZE	DN	A	B	C	E	G	H	WEIGHT	WTG	BOX/CASE	
941163LF	1/2"	0.524	1.945	1.73	3.35	0.504	1.083	2.276	4.319	0.38	10/100	----
941164LF	3/4"	0.748	2.654	1.89	3.35	0.748	1.378	2.579	4.665	0.65	10/80	----
941165LF	1"	0.984	3.315	2.14	4.29	0.909	1.772	3.031	5.949	0.93	8/48	----
941166LF	1-1/4"	1.240	3.741	2.32	4.29	0.968	2.165	3.398	6.165	1.35	4/36	----
941167LF	1-1/2"	1.476	4.252	2.66	5.63	1.091	2.50	3.909	7.756	1.88	2/24	----
941168LF	2"	1.949	5.38	3.01	5.63	1.343	3.244	4.638	8.268	3.62	2/12	----



# LEAD FREE BALL VALVES

VALVES

1/2" - 2" Sizes Gas Approved



# LEAD FREE BALL VALVE

• BRASS • 600PSI • FULL PORT W/APPROVALS  
 CSA, UL, FM(1/4"-2"), cUPC, NSF/ ANSI 61 & 372

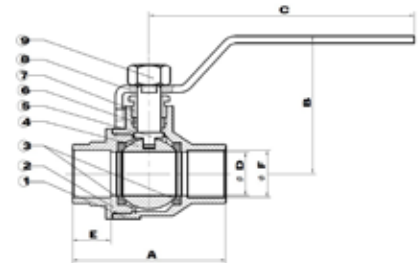


## FEATURES

- Leadfree Brass Ball valve NPT, Female \* Female
- Lead free and dezincification resistant (DZR) material
- 1/4"-1" Lead Free Brass Ball
- Size 1-1/4" thru 4" with Stainless steel ball
- IAMPO listed to cUPC, NSF/ ANSI 61 & 372, IGC 157
- CSA - 1/4" thru 2": ANSI Z21.15/ CSA 9.1 for 1/2 psig valves ASME B16.44, CGA CR91-002 for 2 & 5 psig valves; CAN/ CGA-3.16, ASME B16.33 (1/2"-2") for 125 psig valves
- UL 125, UL 1477, UL 842 - for size 1/4" thru 4", 250 psig
- UL 258 - for size 1/4" thru 2", 175 psig
- FM - for size 1/4" thru 2"
- ISO 9002 Manufacture
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- White vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation

- Low operating torque
- **Adjustable stem packing gland**
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem

POS	Components	Materials
1	Body	Lead Free Brass
2	End Cap	Lead Free Brass
3	Ball Seat	PTFE
4	Ball	1/4-1:Lead Free Brass 1 1/4-4:SS316 Hollowball
5	Stem	Brass
6	Stem Padding	PTFE
7	Padding Nut	Brass
8	Lever Handle	Nickel plating steel
9	Stem Nut	Brass plating steel
10	Seal	PTFE



PART#	SIZE	DIMENSIONS								WEIGHT	BOX/ CASE	
		A	B	C	D	E	F	G	H			
940171LF	1/4"	1.756	1.732	3.543	0.394	0.457	1.012	2.238	4.421	0.34	70/140	----
940172LF	3/8"	1.756	1.732	3.543	0.394	0.457	1.012	2.238	4.421	0.34	70/140	----
940173LF	1/2"	2.047	2.040	3.543	0.583	0.520	1.240	2.559	4.567	0.45	50/100	----
940174LF	3/4"	2.362	2.260	3.780	0.748	0.563	1.492	2.854	4.961	0.69	30/60	----
940175LF	1"	2.756	2.579	4.528	0.945	0.630	1.791	3.476	5.906	1.11	20/40	----
940176LF	1-1/4"	3.307	3.050	4.528	1.260	0.709	2.343	4.134	6.181	1.85	12/24	----
940177LF	1-1/2"	3.661	3.366	5.420	1.575	0.717	2.835	4.783	7.343	2.60	9/18	----
940178LF	2"	4.181	3.701	5.42	1.969	0.748	3.425	5.413	7.602	3.62	6/12	----
940179LF	2-1/2"	4.181	4.650	8.870	2.520	1.024	4.331	6.969	11.350	7.93	3/6	----
940180LF	3"	6.039	4.970	8.870	2.913	1.102	4.921	7.579	11.681	10.40	1/4	----
940181LF	4"	7.386	6.130	10.85	3.898	1.220	6.430	9.055	13.299	20.99	1/2	----

## SWT X SWT LEAD FREE BALL VALVE

FM, cUPC, NSF/ ANSI 61 & 372

PART #	SWT	A	B	C	D	E	F	WEIGHT	BOX/CASE	
943612LF	1/2"	2.047	1.839	3.543	0.583	0.512	0.630	0.45	50/100	----
943613LF	3/4"	2.748	2.14	3.780	0.748	0.748	0.878	0.68	30/60	----
943614LF	1"	3.228	2.449	4.528	0.945	0.906	1.130	1.08	20/40	----
943615LF	1-1/4"	3.819	3.04	4.36	1.260	0.972	1.378	1.80	12/24	----
943616LF	1-1/2"	4.425	3.169	5.39	1.575	1.088	1.630	2.51	9/18	----
943617LF	2"	5.377	3.488	6.307	1.989	1.346	2.130	3.57	6/12	----



**LEAD FREE BALL VALVES**

VALVES

**ITALIAN LEAD FREE BRASS BALL VALVE**



**ISO 9002 Manufacturer FEATURES**

600 PSI non-shock cold water, gas, oil - 150 PSI saturated steam

CSA AGA 3.88 5 PSIG IAMPO IGC 157 - 2004b

- **SOLID CHROME PLATED BRASS BALL**
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Blue vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Flow can go both directions

- Adjustable stem packing gland
- Maximum operating temperature: 248°F (120° C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

**MADE IN ITALY**



**FIP X FIP**



**SWT X SWT**

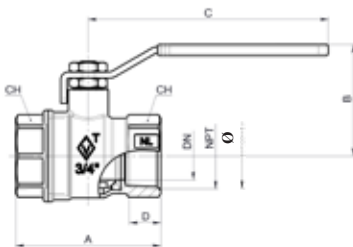
ANSI/INFS 61-8  
• Generic Handles

**FIP X FIP LEAD FREE FORGED BRASS BALL VALVE**

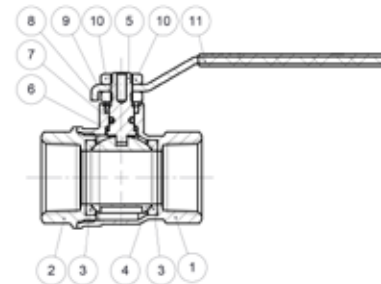
PART #	NPT	DN	A	B	C	D	CH	WEIGHT (LBS)	BOX/CASE	
943233LF	1/2"	0.57	2.09	1.57	3.35	0.46	0.98	0.39	20/80	----
943234LF	3/4"	0.75	2.28	1.77	3.80	0.49	1.22	0.56	14/56	----
943235LF	1"	0.94	3.04	2.03	3.80	0.59	1.50	0.89	6/24	----
943236LF	1-1/4"	1.24	3.23	2.32	4.72	0.62	1.85	1.44	4/16	----
943237LF	1-1/2"	1.49	3.70	2.60	4.72	0.64	2.13	2.19	2/8	----

**SWT X SWT LEAD FREE FORGED BRASS BALL VALVE**

PART #	SWT	Ø	DN	A	B	C	D	CH	WEIGHT (LBS)	BOX/CASE	
940212LF	1/2"	0.63	0.57	2.40	1.57	3.35	0.42	0.79	0.35	20/80	----
940213LF	3/4"	0.866	0.75	3.26	1.77	3.80	0.61	1.06	0.55	10/40	----
940214LF	1"	1.102	0.94	3.68	2.03	3.80	0.73	1.34	0.87	6/24	----
940215LF	1-1/4"	1.377	1.24	4.23	2.32	4.72	0.91	1.61	1.41	6/24	----
940216LF	1-1/2"	1.61	1.49	4.96	2.60	4.72	1.06	1.89	2.08	2/8	----
940217LF	2"	2.125	1.96	5.86	3.27	6.38	1.26	2.40	3.62	1/4	----



POS	Components	Materials
1	Body	CW510L
2	End Connection	CW510L
3	Ball Seal	PTFE
4	Seal	CW510L
5	Stem	CW614N
6	Lower Stem	PTFE
7	O-Ring	NBR70sh
8	Upper Seal	PTFE
9	Brass Ring	CW614N
10	Nut	Steel
11	Handle	Steel P10



# LEAD FREE GATE/ CHECK/ Y VALVES

## VALVES

### BRASS GATE VALVE IPS

- 200 WOG (Cold water, oil, gas)
- 125 WSP (Saturated Steam)
- Brass Forged body/bonList- stronger than sand castings.
- Superior quality and finish.
- Each valve individually tested.
- Threaded ends to ANSI B1.20.1, Solder ends to ANSI B16.18
- Non rising stem.
- Cast iron handle.
- NSF Approved



### BRASS GATE VALVE IPS

PART#	SIZE	
940130LF	1/4	----
940131LF	3/8	----
940132LF	1/2	----
940133LF	3/4	----
940134LF	1	----
940135LF	1-1/4	----
940136LF	1-1/2	----
940137LF	2	----

### BRASS GATE VALVE C X C



PART#	SIZE	
940142LF	1/2"	----
940143LF	3/4"	----
940144LF	1"	----
940145LF	1-1/4"	----
940146LF	1-1/2"	----
940147LF	2"	----

### BRASS CHECK VALVE

- NSF Approved
- ANSI 61-4

NO	Part	Material
1	Cap	C37700
2	Gasket	NBR
3	Spring	Stainless Steel
4	Positioning Seat	BRASS
5	Screw	BRASS
6	Body	C37700



### LEAD-FREE

PART #	SIZE	
944430LF	1/2	----
944431LF	3/4	----
944432LF	1	----
944433LF	1-1/4	----
944434LF	1-1/2	----
944435LF	2	----

### CAST BRASS SWING CHECK VALVE IPS SCREWED ENDS

- Working pressure non-shock: 200 psi W.O.G. (cold water, oil, gas) 125 psi WSP (saturated steam)
- Swing type disc.
- Screwed Cap.
- Hard Seat.
- 90° Straight Pattern.
- Used to prevent reverse flow in commercial and industrial applications.
- Threaded ends to ANSI B1.20.1. Solder ends ANSI 61-8
- Integral seat.
- NSF Approved



PART #	SIZE	
940352LF	1/2"	----
940353LF	3/4"	----
940354LF	1"	----
940355LF	1-1/4"	----
940356LF	1-1/2"	----
940357LF	2"	----

### C X C SWING CHECK VALVE



PART #	SIZE	
940362LF	1/2	----
940363LF	3/4	----
940364LF	1	----
940365LF	1-1/4	----
940366LF	1-1/2	----
940367LF	2	----

### CLASS 150 BRASS Y-PATTERN STRAINER



### LEAD-FREE

PART#	SIZE	
940523LF	1/2"	----

# PRESS BALL VALVE

## VALVES

### LEAD FREE COPPER PRESS BALL VALVE

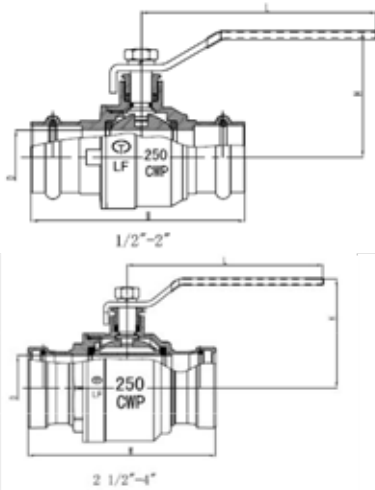
Our Series "940 LF" 2-Piece, Full Port, Lead Free, Copper, Press Ball Valves are designed for use in flameless, copper press piping systems. Our Copper Press Ball Valves feature a lead free brass body, adjustable packing gland and blowout proof stem with stem a single O-ring seal. Our press ball valves come with integral ASTM-B88 compliant press end connections that can be used with type K, L, M, hard copper tubing 1/2 in. - 4 in. Utilizing industry standard tools.

#### Press Ball Valve Features

- Lead Free construction.
- Available Sizes: 1/2 in. - 4 in.
- Integral press end connections designed for hard and soft copper tubing
- ISO-9001
- 250 WOG - 250 CWP (2-1/2" - 4")
- Full Port Stainless Steel ball
- One O-Ring design
- Blow Out Proof Stem
- UPC & NSF-61 Compliant
- AB1953 & NSF-372 Compliant



Our Copper Press Ball Valves are a heat-free method for joining copper tubes. Our press valve allows installers the confidence to know the joint is secure due to our leak-detection o-ring. During low pressure testing, if the joint is not pressed properly, the specialized o-ring will leak. This allows the installer to correct the press before the system is operational at higher pressures.



Part Name	Material
Body	Lead Free Brass
Seat	PTFE
Ball	Stainless Steel
Stem O-Ring	NBR
Packing Nut	Brass
Stem	Brass (1/2"-2")
	Stainless Steel(2-1/2"-4")
Lock Nut	Ferrum /Zinc Plated
Lock Washer	Ferrum /Zinc Plated
Packing	PTFE
Handle	Ferrum /Chrome Plated
Cap	Lead Free Brass
Body O-Ring	NBR
Press O-Ring	EPDM

PART	SIZE	D	L	H	W	CV	
940403LF	1/2"	0.591	3.46	1.81	3.15	18.55	----
940404LF	3/4"	0.748	4.29	2.09	3.60	29.76	----
940405LF	1"	0.984	4.29	2.25	3.92	51.55	----
940406LF	1-1/4"	1.259	5.63	2.52	4.41	84.42	----
940407LF	1 1/2"	1.574	5.63	2.74	5.35	131.93	----
940408LF	2 "	1.941	5.63	3.03	6.79	200.35	----
940409LF	2 1/2"	2.520	7.76	4.25	7.46	338.43	----
940410LF	3 "	2.874	8.19	4.58	8.17	445.44	----
940411LF	4"	3.839	9.25	5.49	9.88	783.88	----

# PEX BALL VALVES - LEAD FREE

VALVES

## C/E PEX & PEX BALL VALVES LEAD FREE

CUPC, AB 1953, NSF/ANSI 61, NSF/ANSI 372 (ANNEX G) NSF-14

- 400 WOG
- FORGED LEAD FREE BRASS BODY
- SS BALL

### UNION PEX VALVE

C/E PEX X C/E PEX



- Cold Expansion
- Conforms to ASTM F1960

PART	SIZE	
945611LF	1/2"	----
945612LF	3/4"	----
945613LF	1"	----
945614LF	1-1/4"	----
945615LF	1 1/2"	----
945616LF	2"	----

### PEX DRAIN VALVE

C/E PEX X C/E PEX

WITH WASTE DRAIN AND DROP EAR



- Cold Expansion
- Conforms to ASTM F1960

PART	SIZE	
945621LF	1/2"	----
945622LF	3/4"	----
945623LF	1"	----

### MALE ADAPTER PEX VALVE

MALE PIPE X C/E PEX



- Cold Expansion
- Conforms to ASTM F1960
- Thread conforms to ANSI B1.20.1

PART	SIZE	
945631LF	1/2"	----
945632LF	3/4"	----
945633LF	1"	----

### PEX X PEX

PEX ENDS CONFORM TO ASTM F1960



- CSA

PART	SIZE	
945601LF	1/2"	----
945602LF	3/4"	----
945603LF	1"	----
945604LF	1-1/4"	----
945605LF	1-1/2"	----
945606LF	2"	----

### W/TEE HANDLE

PART	SIZE	
945640LF	3/4"	----

### PEX DRAIN VALVE



- Conforms to ASTM F1960

PART	SIZE	
945650LF	1/2"	----
945651LF	3/4"	----
945652LF	1"	----

- Dezincification resistant (D2B) Lead Free Brass material
- Cold expansion pex ends conform to ASTM F1960
- Blow out proof stem design

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

VALVES

**FORGED BRASS BALL VALVE**

VALVES

**FORGED BRASS BALL VALVE**

• BRASS • 600WOG • FULL PORT

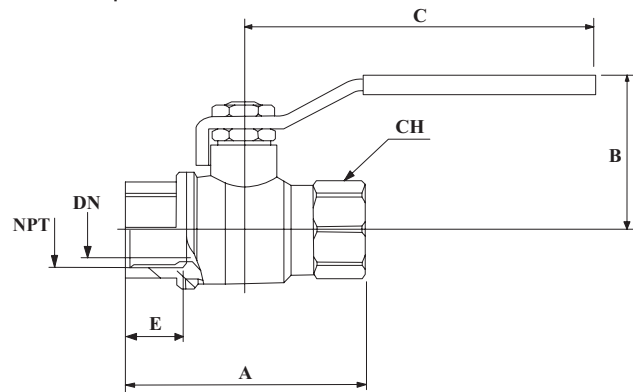
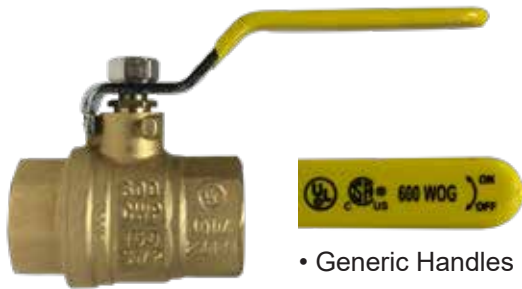
**ISO 9002 Manufacturer FEATURES**

Made in China

1/4"-2" 600 PSI non-shock cold water,  
gas, oil - 150 PSI saturated steam  
2-1/2"- 4" 400 PSI non-shock cold water,  
gas, oil

- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation
- Not Lead Free
- Good for gasoline

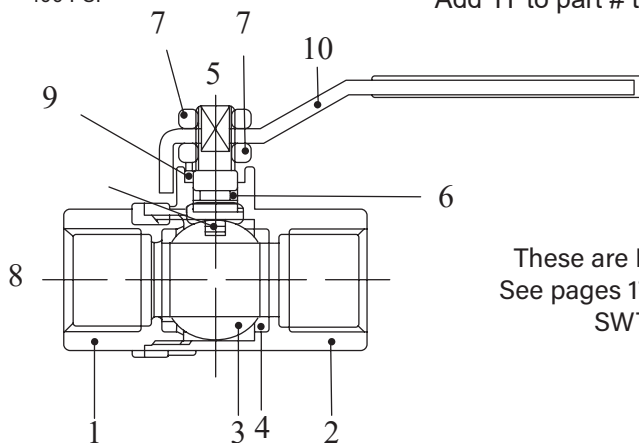
- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150°C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections



PART#	SIZE		DIMENSION INCHES					WEIGHT	BOX/CASE	
	NPT	DN	A	B	C	E	CH			
940171	1/4"	0.39	1.75	1.92	3.54	0.46	0.78	0.34	70/140	----
940172	3/8"	0.41	1.75	1.92	3.54	0.46	0.78	0.30	70/140	----
940173	1/2"	0.58	2.05	2.08	3.54	0.52	0.98	0.44	50/100	----
940174	3/4"	0.75	2.36	2.30	3.78	0.56	1.20	0.67	30/60	----
940175	1"	0.94	2.75	2.68	4.52	0.66	1.50	1.05	20/40	----
940176	1-1/4"	1.26	3.30	3.14	4.52	0.70	1.82	1.50	12/24	----
940177	1-1/2"	1.57	3.66	3.61	5.51	0.72	2.09	2.30	9/18	----
940178	2"	1.97	4.18	3.68	5.51	0.74	2.62	3.38	6/12	----
940179*	2-1/2"	2.52	5.38	4.76	8.66	1.01	3.36	7.61	3/6	----
940180*	3"	2.95	6.04	5.08	8.66	1.11	3.86	11.10	2/4	----
940181*	4"	3.89	7.38	5.86	9.00	1.22	4.89	12.12	1/2	----

\* 400 PSI

\* Add 'H' to part # to order handles \*



These are NOT Lead Free  
See pages 179 for Lead Free  
SWT Valves

POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Seat	P.T.F.E.	2
5	Stem	Brass	1
6	Gland	Brass	1
7	Nut	Steel	1
8	Spring Inseat	Steel	1
9	Stem Seal	P.T.F.E.	1
10	Handle	Steel	1

• Not Lead Free AB1953 Compliant

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

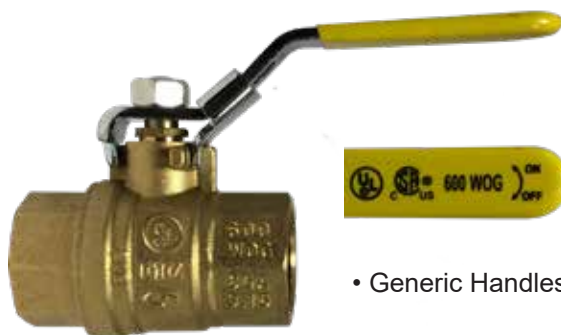


# BUTTERFLY HANDLE BALL VALVE

VALVES

## LOCKING HANDLE BALL VALVE

- BRASS
- 600WOG
- FULL PORT



See specs on previous page

- Generic Handles

PART#	SIZE	DIMENSION INCHES						WEIGHT	BOX/CASE	
	NPT	DN	A	B	C	E	CH			
940171L	1/4"	0.31	1.73	1.84	3.15	0.49	0.71	0.39	70/140	----
940172L	3/8"	0.39	1.81	1.88	3.86	0.49	0.79	0.35	70/140	----
940173L	1/2"	0.58	2.23	2.09	3.43	0.61	0.98	0.49	50/100	----
940174L	3/4"	0.75	2.48	2.24	3.62	0.62	1.20	0.78	30/60	----
940175L	1"	0.94	2.95	2.67	4.42	0.73	1.50	1.18	20/40	----
940176L	1-1/4"	1.26	3.42	3.05	4.73	0.77	1.81	1.76	12/24	----
940177L	1-1/2"	1.57	3.78	3.51	5.18	0.78	2.09	2.53	9/18	----
940178L	2"	1.97	4.18	3.84	5.24	0.75	2.60	3.53	6/12	----

## BUTTERFLY HANDLE BALL VALVE

- BRASS
- 600WOG
- FULL PORT



See specs on previous page

PART#	SIZE						WEIGHT	BOX/CASE	
	NPT	A	B	C	D	E			
940171T	1/4"	1.75	1.488	1.831	0.315	0.457	0.342	70/140	----
940172T	3/8"	1.756	1.488	1.831	0.394	0.457	0.31	70/140	----
940173T	1/2"	2.047	1.756	2.394	0.583	0.520	0.44	50/100	----
940174T	3/4"	2.362	1.921	2.394	0.748	0.563	0.68	30/60	----

- Not Lead Free AB1953 Compliant


**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**NICKEL PLATED BALL VALVE**

VALVES

**NICKEL PLATED BALL VALVE**

- BRASS
- 600WOG
- FULL PORT
- NO APPROVALS

**Vacuum service to 29 inches Hg**

600 psi (WOG) 150 psi (WSP) Service

Thread conform ANSI B1.20.1

Temperature Range : -40° F to 365° F

Construction: Forging Brass Body, Nickel plated

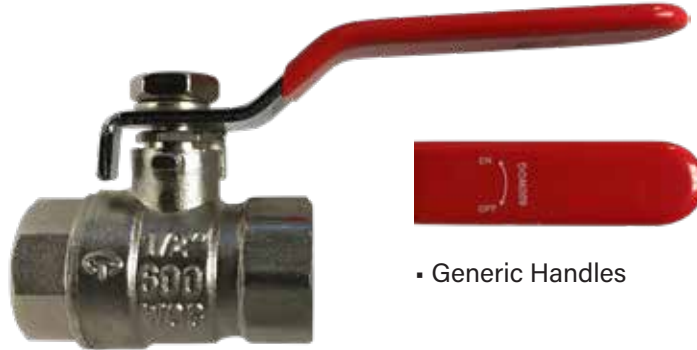
PTFE Ball Seats

Blow Out Proof Brass Stem

Steel Handle w/Vinyl Grip

Made in China

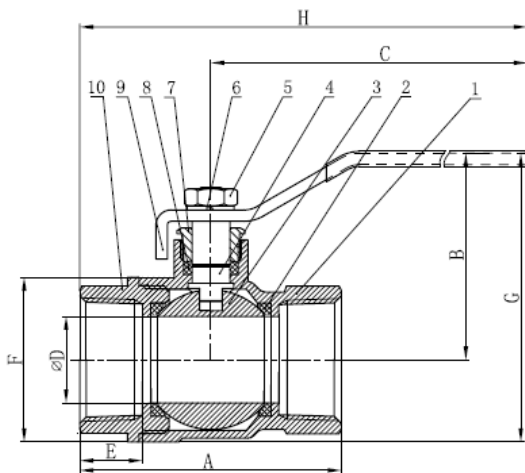
- Not Lead Free



- Generic Handles

**FIP X FIP NICKEL PLATED BALL VALVE**

PART #	SIZE	OD	A	B	C	E	F	G	H	WEIGHT	BOX/CASE	
941151NP	1/4"	0.394	1.73	1.69	3.35	0.453	0.945	2.154	4.331	0.32	10/120	----
941152NP	3/8"	0.394	1.73	1.69	3.35	0.473	0.945	2.154	4.331	0.32	10/120	----
941153NP	1/2"	0.524	1.89	1.73	3.35	0.472	1.083	2.276	4.291	0.36	10/100	----
941154NP	3/4"	0.748	2.28	1.89	3.35	0.563	1.378	2.579	4.488	0.57	10/80	----
941155NP	1"	0.984	2.80	2.14	4.29	0.650	1.772	3.031	5.689	0.65	8/48	----
941156NP	1-1/4"	1.240	3.15	2.32	4.29	0.669	2.165	3.398	5.866	1.75	4/36	----
941157NP	1-1/2"	1.476	3.44	2.66	5.63	0.701	2.50	3.909	7.343	2.10	2/24	----
941158NP	2"	1.949	4.06	3.01	5.63	0.708	3.244	4.638	7.638	3.35	2/12	----



No	Item	Qty	Material
1	Body	1	NP Brass
2	Seat	2	PTFE
3	Ball	1	Brass CP
4	Stem	1	Brass/ NP
5	Handle Nut	1	Plated Steel
6	Lock Washer	1	Plated Steel
7	Packing Nut	1	Brass/ NP
8	Packing	1	PTFE

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# N/P BALL VALVE W/SS TRIM

VALVES

Gas Approved



UL842, UL258, UL125,FM

CSA AGA 3.88 5 PSIG

# N/P BALL VALVE W/SS TRIM

- NICKEL PLATED
- SS BALL, HANDLE, NUT & STEM
- LOCKING HANDLE
- W/APPROVALS

## Features

- Vacuum service to 29 inches Hg
- Thread Conform ANSI B1.20.1
- Forged Brass Body
- Blow Out Proof Stem Design
- Packing Nut, O-RING & Packing On The Stem Seal
- Stainless Steel Ball, Handle, Nut&Stem
- Handle With Vinyl Grip

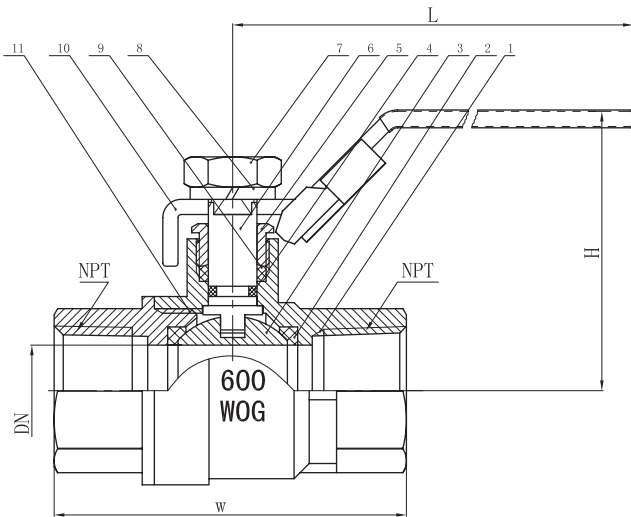
## Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free
- No more rusty handles



• Generic Handles

PART#	SIZE	D	L	H	W	CV	WT.(LBS.)	BOX/CASE	
941121NP	1/4	0.394	3.22	1.84	1.73	8.23	0.326	10/120	----
941122NP	3/8	0.394	3.22	1.84	1.73	8.23	0.320	10/120	----
941123NP	1/2	0.591	3.22	2.02	2.24	18.55	0.474	10/100	----
941124NP	3/4	0.748	4.04	2.40	2.52	29.76	0.785	10/80	----
941125NP	1	0.984	4.08	2.20	2.97	51.55	1.155	8/48	----
941126NP	1-1/4	1.259	5.20	3.05	3.44	84.42	1.797	4/36	----
941127NP	1 1/2	1.574	5.20	3.18	3.88	131.93	2.447	2/24	----
941128NP	2	1.941	5.20	3.48	4.33	200.35	3.477	2/12	----



Part Name	Material
Body	Brass/ Nickel Plated
Seat	PTFE
Ball	Stainless Steel
O-ring	Viton
Packing Nut	Brass/ Nickel Plated
Stem	Stainless Steel
Handle Nut	Stainless Steel
Lock Washer	Stainless Steel
Packing	PTFE
Handle	Stainless Steel
Cap	Brass/ Nickel Plated

## BRONZE BALL VALVES AVAILABLE WITH UL-MARINE LISTING AND SS TRIM

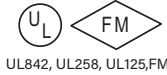
**WARNING:** This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# ITALIAN BALL VALVE

VALVES

## ITALIAN BALL VALVE

• BRASS • 600WOG • FULL PORT



ISO 9002 Manufacturer  
FEATURES

CSA AGA 3.88 5 PSIG

IAMPO IGC 157 - 2004b

- **SOLID CHROME PLATED BRASS BALL**
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Flow can go both directions
- Generic Handles

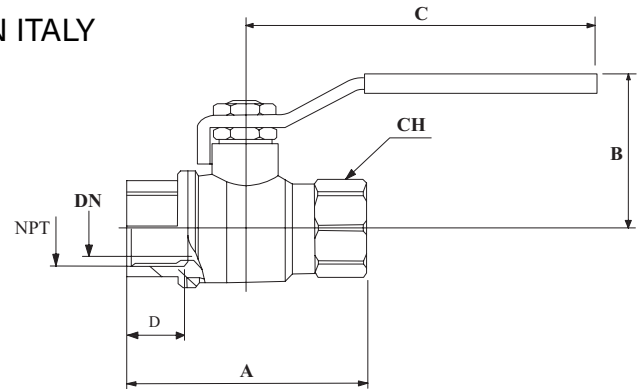
- **Adjustable stem packing gland**
- Maximum operating temperature: 248°F (120° C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

• **REVERSIBLE HANDLES**

MADE IN ITALY



Female x Female



PART#	SIZE		DIMENSION INCHES					WEIGHT	BOX/CASE	
	NPT	DN	A	B	C	D	CH			
943200	1/4"	.39	1.96	1.53	3.31	.43	.75	0.36	24/96	----
943201	3/8"	.39	1.96	1.53	3.31	.43	.86	0.40	24/96	----
943202	1/2"	.57	2.09	1.57	3.25	.46	.98	0.44	20/80	----
943203	3/4"	.75	2.28	1.77	3.80	.49	1.22	0.57	14/56	----
943204	1"	.94	2.80	2.03	3.80	.59	1.50	0.89	6/24	----
943205	1-1/4"	1.24	3.50	2.32	4.72	0.72	1.85	1.64	4/16	----
943206	1-1/2"	1.49	3.90	3.02	6.38	0.85	2.13	2.78	2/8	----
943207	2"	1.96	4.07	3.27	6.38	.65	2.64	3.21	2/8	----
942208	2-1/2"	2.48	5.80	4.98	7.54	1.06	3.31	6.97	5	----
942209	3"	2.99	6.85	5.63	8.86	1.14	3.89	10.34	3	----
942210	4"	3.54	7.67	6.04	8.86	1.22	4.80	18.77	1	----

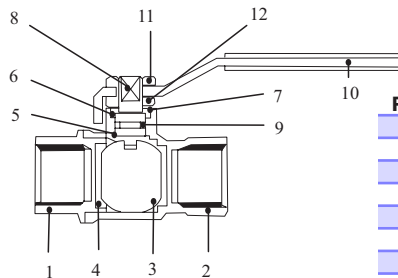
### HANDLE OPTIONS

#### TEE HANDLES

PART #	VALVE SIZE	
43200T	1/4" - 3/4"	----

#### LOCKING HANDLES

PART #	VALVE SIZE	
43200L	1/4" - 3/4"	----
43204L	1"	----
43206L	1-1/4" - 1-1/2"	----
43-207L	2"	----



POS	Components	Materials	N
1	Body	Forged Brass	1
2	End Connection	Forged Brass	1
3	Ball	CP Brass	1
4	Ball Stems	P.T.F.E.	2
5	Stem Antif. Seat	P.T.F.E.	1
6	Stem Seat	P.T.F.E.	1
7	Brass Ring	Brass	1
8	Stem	Brass	1
9	O-Ring	NBR 80	1
10	Handle	Steel	1
11	Nut	Steel	1
12	Nut	Brass	1

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

• Not Lead Free AB1953 Compliant

# MALE X FEMALE BRASS BALL VALVE

VALVES

# MALE X FEMALE BRASS BALL VALVE

• 600WOG • FULL PORT



UL842, UL258

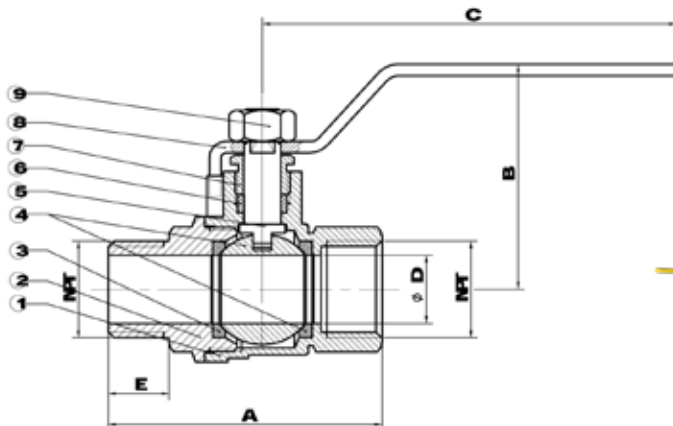
- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG ( non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.
- Flow both directions.
- Low operating torque.

- Adjustable stem packing gland.
- Generic Handles
- Maximum operating temperature: 248°F (120°C)
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.201
- Hard chromium plated solid ball



• Not Lead Free

PART#	SIZE	NPT	A	B	C	D	E	WEIGHT	BOX/CASE	
948170	1/4"	1/4 - 18	2.016	1.689	2.756	0.315	0.457	0.29	70/140	----
948171	3/8"	3/8 - 18	2.094	1.89	3.543	0.394	0.457	0.33	70/140	----
948172	1/2"	1/2 - 14	2.343	2.05	3.543	0.583	0.520	0.47	50/100	----
948173	3/4"	3/4 - 14	2.618	2.20	3.780	0.748	0.563	0.68	30/60	----
948174	1"	1 - 11.5	3.000	2.579	4.528	0.945	0.630	1.11	20/40	----
948175	1-1/4"	1-1/4 - 11.5	3.563	2.953	4.528	1.260	0.709	1.70	12/24	----
948176	1-1/2"	1-1/2 - 11.5	3.965	3.346	5.512	1.575	0.717	2.50	9/18	----
948177	2"	2 - 11.5	4.496	3.681	5.512	1.969	0.748	3.57	6/12	----



POS	Components	Materials
1	Body	C37700
2	End Cap	CS7700
3	Ball Seat	PTFE
4	Ball	CS7700
5	Stem	CS7700
6	Stem Reducing	PTFE
7	Reducing Nut	CS7700
8	Lever Handle	1008



Locking Handle option  
see pg. 182



Tee handle option  
see pg. 181

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

VALVES



# ITALIAN MALE X FEMALE BALL VALVE

VALVES

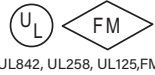
## ITALIAN MALE X FEMALE BALL VALVE

• BRASS • 600WOG • FULL PORT

Gas Approved



CSA AGA 3.88 5 PSIG



UL842, UL258, UL125, FM

Made in Italy

ISO 9002 Manufacturer  
FEATURES

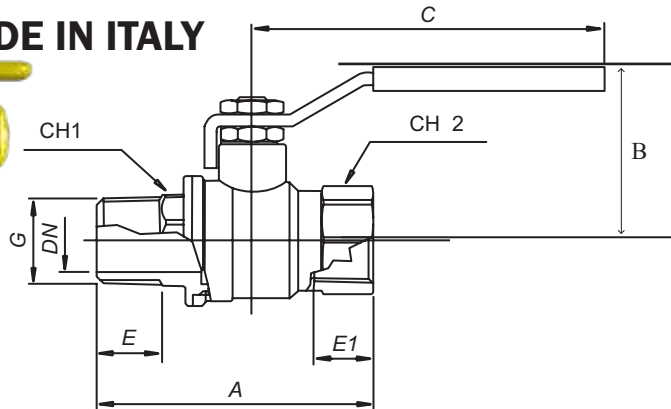
- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG ( non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.
- Generic Handles
- Flow both directions.

- Low operating torque.
- Adjustable stem packing gland.
- Maximum operating temperature: 248°F (120°C) at 600 p.s.i
- Minimum operating temperature: -20°F (-40°C)
- KV: Pressure drop m<sup>3</sup>/h.
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem.
- Deeper threads - for better connections.

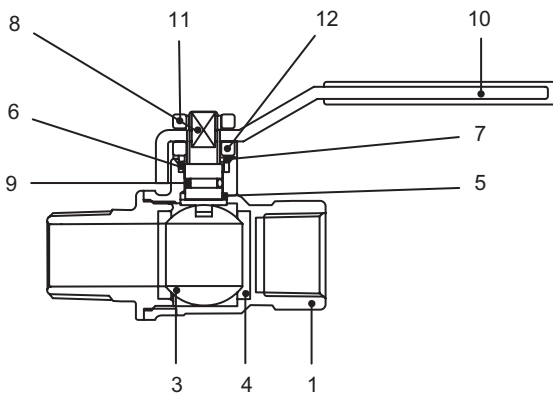


MIP x FIP

MADE IN ITALY



PART#	SIZE	DN	A	B	C	E	E1	CH1	CH2	WEIGHT	BOX/CASE	
948101	1/4"	.39	2.18	1.53	3.28	.39	.43	.55	.75	0.35	24/96	----
948102	3/8"	.39	2.20	1.53	3.28	.43	.43	.71	.86	0.35	24/96	----
948103	1/2"	.57	2.54	1.57	3.28	.62	.46	.87	.98	0.42	14/56	----
948104	3/4"	.75	2.75	1.77	3.80	.55	.49	1.12	1.22	0.68	12/48	----
948105	1"	.94	3.23	2.03	3.80	.69	.59	1.34	1.50	0.95	6 /24	----
948106	1-1/4"	1.24	3.86	2.32	4.63	.81	.79	1.69	1.90	1.66	4/16	----
948107	1-1/2"	1.49	4.20	2.98	6.28	.85	.64	2.15	2.13	2.83	2/8	----
948108	2"	1.96	4.90	3.27	6.38	.90	.75	2.40	2.64	4.22	1/4	----



POS	Components	Materials	N
1	Body	CW617N Forged Brass	1
2	End Connection	CW617N Forged Brass	1
3	Ball	CW617N CP Brass	1
4	Ball Stems	P.T.F.E.	2
5	Stem Antif. Seat	P.T.F.E.	1
6	Stem Seat	P.T.F.E.	1
7	Brass Ring	CW617N Brass	1
8	Stem	CW617N Brass	1
9	O-Ring	NBR 80	1
10	Handle	UNI EN 10025 Steel	1
11	Nut	UN 5771 Steel	1
12	Nut	CW617N Brass	1

• Not Lead Free

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# TEE HANDLE BALL VALVE - MXF

VALVES

## TEE HANDLE BALL VALVE - MALE X FEMALE



UL842, UL258

### Features

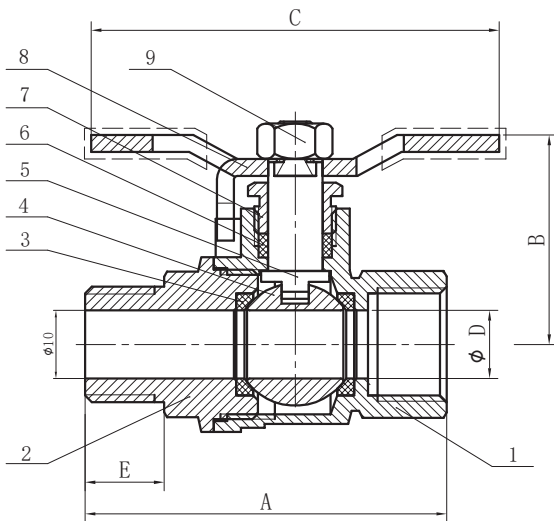
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass Ball
- Handle with vinyl grip

### Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free



PART#	SIZE NPT	DIMENSION INCHES					Weight	Box/Case	
		A	B	C	D	E			
948170T	1/4"	2.016	1.27	2.67	0.315	0.457	0.26	70/140	----
948171T	3/8"	2.094	1.213	2.67	0.394	0.457	0.33	70/140	----
948172T	1/2"	2.343	1.61	3.12	0.583	0.520	0.49	50/100	----
948173T	3/4"	2.618	1.26	3.12	0.748	0.563	0.66	30/60	----
948174T	1"	3.000	1.921	3.701	0.945	0.630	1.06	20/40	----
948176T	1-1/2"	3.965	2.717	4.331	1.575	0.717	2.46	9/18	----



Item	Part	Materials
1	Body	Brass
2	End Cap	Brass
3	Ball Seat	PTFE
4	Ball	C/P Brass
5	Stem	Brass
6	Stem Packing	PTFE
7	Packing Nut	Brass
8	T-Handle	Nickel plating steel
9	Stem Nut	Brass plating steel

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

VALVES

# LOCKING HANDLE BALL VALVES

VALVES

## LOCKING HANDLE BALL VALVES - FEMALE X MALE



UL842, UL258

### Features

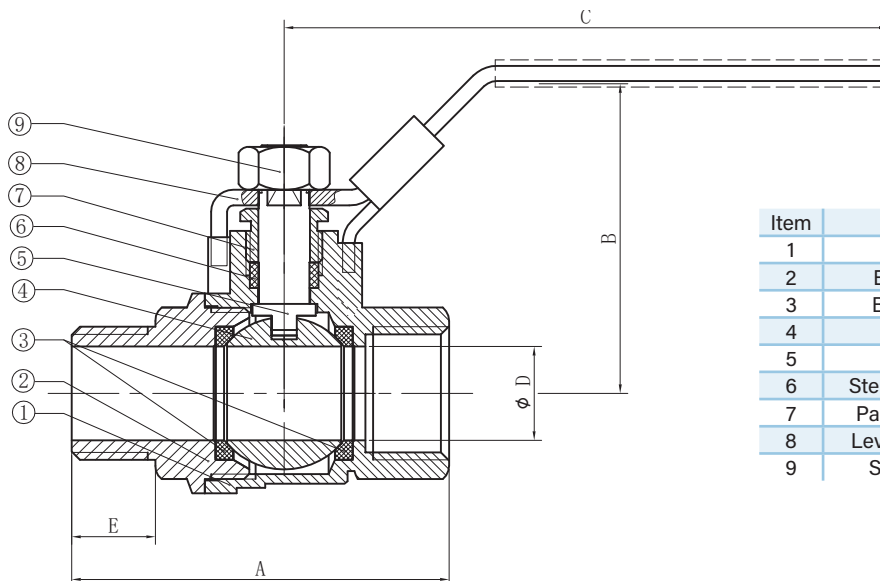
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass ball
- Handle with vinyl grip

### Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free



PART#	SIZE	DIMENSION INCHES					Weight	Box/Case	
	NPT	A	B	C	D	E			
948170L	1/4"	2.016	1.732	3.543	0.315	0.457	0.32	70/140	----
948171L	3/8"	2.094	1.732	3.543	0.394	0.457	0.37	70/140	----
948172L	1/2"	2.343	1.941	3.543	0.583	0.520	0.50	50/100	----
948173L	3/4"	2.618	2.106	3.78	0.748	0.563	0.77	30/60	----
948174L	1"	3.000	2.579	4.528	0.945	0.630	1.21	20/40	----
948175L	1-1/4"	3.563	2.961	4.528	1.260	0.709	1.74	12/24	----
948176L	1-1/2"	3.965	3.366	5.36	1.575	0.717	2.58	9/18	----
948177L	2"	4.496	3.701	5.36	1.969	0.748	3.73	6/12	----



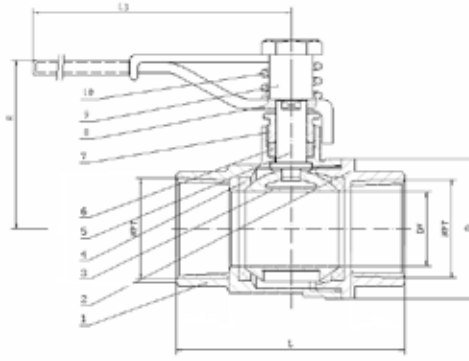
Item	Part	Materials
1	Body	Brass
2	End Cap	Brass
3	Ball Seat	PTFE
4	Ball	C/P Brass
5	Stem	Brass
6	Stem Packing	PTFE
7	Packing Nut	Brass
8	Lever Handle	Nickel plating steel
9	Stem Nut	Brass plating steel

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SPRING HANDLE/ RIGHT ANGLE VALVES

## BRASS SPRING HANDLE BALL VALVE

Working pressure:600 PSI for brass  
 Temperature Range:-40°F to 365°F( -40°C to +185°C)  
 Material:Brass  
 Spring Lever Handle w/Vinyl Grip  
 Made in China  
 Not lead free

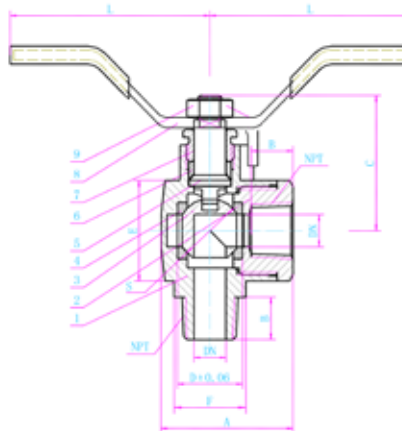


Part #	Part Name	Material
1	Body	Brass
2	Bonnet	Brass
3	Ball	Brass
4	Sealing Seat	PTFE
5	Stem	Stainless Steel
6	Packing Ring	PTFE
7	Gland	Brass
8	Handle	Stainless Steel
9	Bolt	Brass
10	Spring	Stainless Steel

PART#	SIZE	L	D	DN	H	L3	WTG	BOX/ CASE	
947103	1/2"	2.19	1.24	0.59	1.83	4.24	0.54	10/80	----
947104	3/4"	2.38	1.5	0.75	2.19	4.24	0.72	5/40	----
947105	1"	3.23	1.91	0.98	2.49	4.71	1.32	5/30	----

## RIGHT ANGLE BRASS BALL VALVE

Working pressure: 250PSI  
 Temperature Range -40° to 400°F( -40 °C to +205 °C)  
 With lever Handle Teflon seats 2-pc,full port Heavy Duty forged Body Steel Handle w/Vinyl Grip  
 Made in China  
 Not lead free



Part #	Part Name	Material
1	Body	Brass
2	Cap	Brass
3	Ball	Brass
4	Seat	PTFE
5	Stem	Brass
6	Stuffing	PTFE

PART #	SIZE	A	B	C	D	S	DN	L	E	F	WTG	BOX/ CASE	
947111	1/4	1.59	0.41	1.40	0.64	0.63	0.32	2.60	0.98	0.65	0.34	12/120	----
947112	3/8	1.59	0.41	1.40	0.73	0.71	0.39	2.60	0.98	0.65	0.36	12/120	----
947113	1/2	1.73	0.55	1.40	0.79	0.87	0.55	2.60	1.08	0.83	0.47	10/80	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

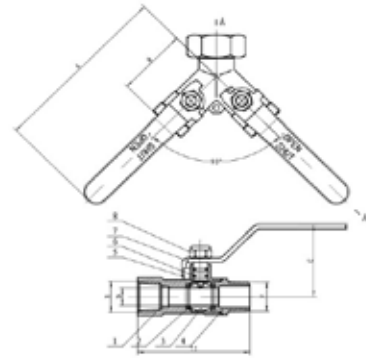
# 3 WAY AND SAFETY EXHAUST BALL VALVES

## VALVES

### 3-WAY WYE BRASS BALL VALVE, VENTED AND UNVENTED

- Max. pressure: W.O.G. (water, oil, inert gas)  
 Unvented Valve: 600psi@70°F  
 Vented Valve: 250psi@70°F  
 W.S.P. (working steam pressure)  
 Unvented Valve: 150psi@365°F  
 Vented Valve: Not related
- Vacuum Rating: 29"Hg
- Temperature Range: -40° to 365°F
- Ports: Full

Part#	Part Name	Material
1	Body	Brass Nickel Plated
2	Seat	PTFE
3	Ball	Brass, Cr. Plated
4	Cap	Brass Nickel Plated
5	Stem	Brass
6	O-Ring	Viton



Designed for the portable air compressor industry, these valves control the flow of water, oil, and inert gases in two directions and are great for mixing and diverting. They have a single female inlet and two male outlets with two ball valves. Valves are Brass Nickel Plated and have chrome-plated brass balls, brass blow-out proof stems, PTFE seats and seals, and steel lever handles with vinyl grips. Vented valves have a drilled hole on the two valve balls and body that vents compressed air in the line when the valve is closed. Connections: 1" NPT female inlet and 3/4" NPT male outlet. • Made in China • Not lead free

Connections: 1" NPT female inlet and 3/4" NPT male outlet. • Made in China • Not lead free



**NON-VENTED**



**VENTED**

NOW WITH STAINLESS STEEL HANDLES

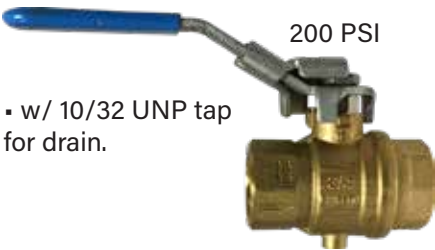
PART #	BALL	E	F	A	B	C	D	G	WTG	BOX/CASE	
947125	Non-vented	1" Female	3/4" Male	5.18"	2.5"	2.05"	0.59"	90°	1.43	2/24	----
947126	Vented								1.48	2/24	----

### EXHAUST VALVES

#### AUTOMATIC DRAIN & LATCH LOCK HANDLE

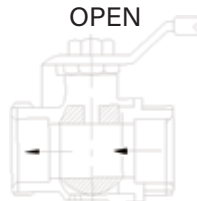
Full port hot forged brass ball valve, blow-out proof stem, downstream automatic vent with lockable handle in compliance with OSHA requirements.

- Maximum working pressure: 200 PSI (CWP).
- Temperature rating: +15°F through +210°F.
- Made in Italy
- Not lead free

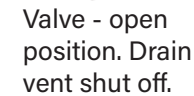


200 PSI

- w/ 10/32 UNP tap for drain.



OPEN



CLOSED

PART#	SIZE	
948131	1/4"	----
948132	3/8"	----
948133	1/2"	----
948134	3/4"	----
948135	1"	----

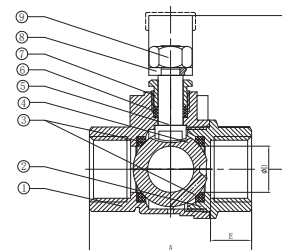
Valve - closed and draining occurs. Upstream seat prevents air flow. Downstream system is vented to atmosphere.

### SAFETY EXHAUST BALL VALVE

- Threaded - Two Piece Body - Full Port
- Blow-out Proof Stem - PTFE Seats
- To Exhaust and Downstream Air in the Closed Position w/ locking lever handle.
- Made in China
- Vented
- 400 PSI WOG
- Not lead free
- 150 SWP



PART #	SIZE	A	B	D	E	
948141	1/4"	1.756	1.88	0.394	0.457	----
948142	3/8"	1.756	1.88	0.394	0.457	----
948143	1/2"	2.047	2.13	0.583	0.520	----
948144	3/4"	2.362	2.28	0.748	0.563	----



#### MATERIAL LIST

Item	Part	Material
1	Body	Brass
2	End Cap	Brass
3	Ball Seat	PTFE
4	Ball	Brass
5	Stem	Brass
6	Stem Packing	PTFE
7	Packing Nut	Brass
8	Lever Handle	Nickel plating steel
9	Stem Nut	Nickel plating steel

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# GAS BALL VALVES

VALVES



CSA AGA 3.88 5 PSIG

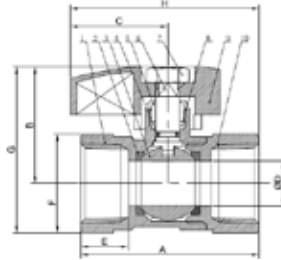
# GAS BALL VALVES

ISO 9002 MANUFACTURER  
FEATURES



Manual Valve  
LISTED  
Threaded NPT  
UL 842, UL 258, UL 125

- Material: C37700
- Forged brass, Regular port, Thread\*Flare Thread
- Thread ends in ANSI B1.20.1
- Working temperature: 0-65°(32-149°)
- Pressure :1/2PSI;5PSI;
- ASME B16.44/CR91; ANSI Z21.15/CSA9.1
- UL 125 For LP-Gas 125psig
- Made in China



NO.	ITEM	TOTAL	MATERIAL
10	BALL VALVE CAP	1	BRASS
9	HANDLE	1	AL-alloy
8	PACKING	1	PTFE
7	HANDLE NUT	1	PLATED STEEL
6	STEM	1	BRASS
5	PACKING NUT	1	BRASS
4	O-RING	1	NBR
3	BALL	1	BRASS
2	SEALING WASHER	2	PTFE
1	BALL VALVE BODY	1	BRASS

## GAS BALL VALVE (2-PIECE) FEMALE X FEMALE

PART#	SIZE	WTG	BOX/CASE	
943311	3/8"	0.35	10/100	----
943312	1/2"	0.44	10/100	
943313	3/4"	0.62	10/100	----

SIZE	∅D	A	B	C	E	F	G	H
3/8"	0.394	1.752	1.437	1.28	0.472	0.945	1.909	2.146
1/2"	0.394	2.204	1.437	1.28	0.606	1.043	1.961	2.461
3/4"	0.591	2.362	1.535	1.28	0.626	1.299	2.815	2.476



## FLARE X FLARE

PART#	SIZE	
943342	3/8	----
943343	1/2	----
943345	5/8	----
943344	15/16	----



## FLARE X MIP

PART#	SIZE	
943347	3/8 x 1/2	----
943348	1/2 x 1/2	----

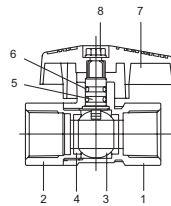


## FLARE X FIP

PART#	SIZE	
943331	3/8 x 1/2	----
943332	1/2 x 1/2	----
943351	5/8 x 3/4	----
943350	15/16 x 3/4	----

- For use with natural, manufactured, mixed liquified, petroleum and LP gas-air mixtures.
- Deeper thread connections. Smooth quarter-turn.
- Manufactured to ANSI Z21.15, C.G.A. 9.1-M81, 9.2-M88, 1/2 psig, 372 also to A.G.A.3-8, C.G.A. CR91-002, 2 psig.
- Solid chrome plated brass ball
- Bottom entry
- Blow out proof design.
- Double viton o-rings stem seals
- Teflon seats for durability.
- Forged construction for greater strength.
- Larger ports for increased flow capacity.
- Red Reversible handle.
- May be used with water 400 WOG.

**MADE IN ITALY**



Components	Materials
1 Body	Forged Brass
2 End Connection	Forged Brass
3 Ball	Forged Brass
4 Ball Seats	P.T.F.E.
5 Stem	Brass
6 O-Ring	NBR
7 Butterfly	Steel
8 Screw	UNI 5771 Steel

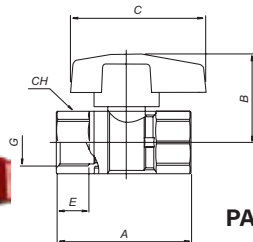


CSA AGA 3.88 5 PSIG



Manual Valve  
LISTED  
Threaded NPT  
UL 842, UL 258, UL 125

## GAS BALL VALVES FEMALE X FEMALE



PART#	SIZE		DIMENSION INCHES							
	G	DN	A	B	C	E	CH	PN in psi	WTG	Box/Case
943212	1/2"	.47	2.26	1.45	2.28	.55	.98	600	0.33	20/80
943213	3/4"	.59	2.48	1.57	2.28	.57	1.22	600	0.45	14/56

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

VALVES

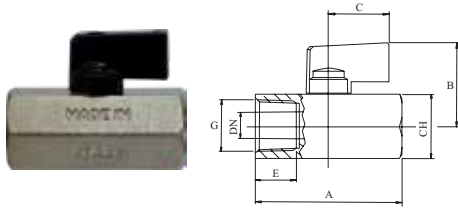
# CHROME PLATED BRASS MINI BALL VALVES

VALVES

## ITALIAN CHROME PLATED BRASS MINI BALL VALVE

ISO 9002 Manufacturer

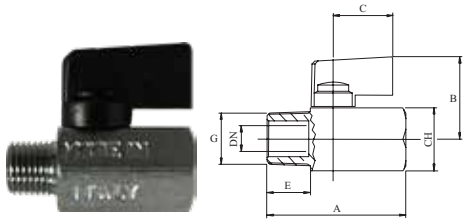
- |  |                   |  |
|--|-------------------|--|
| <ul style="list-style-type: none"> <li>• Solid chrome plated brass ball</li> <li>• Max working pressure 235 psi will handle 300psi@75° F</li> <li>• Longer body style for longer, deeper thread connections</li> <li>• One piece drawn sand blasted chrome plated body.</li> <li>• Each valve is seal tested for maximum safety.</li> <li>• Double seal system allows valve to be operated in both directions making installation easier.</li> </ul> | <h3>FEATURES</h3> | <ul style="list-style-type: none"> <li>• Blowout-proof brass stem.</li> <li>• NPT taper ANSI B1.20.1 threads.</li> <li>• 32°F to +176°F temperature.</li> <li>• 1/4 Turn Aluminium handle with mechanical stop.</li> <li>• NSF Approved valves available upon request.</li> <li>• Not lead free</li> </ul> |
|--|-------------------|--|



Made in Italy

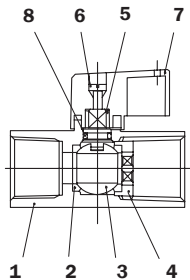
### Female x Female

PART#	SIZE		DIMENSION INCHES							BOX/CASE
	G	DN	A	B	C	E	CH	WTG		
46922I	1/4"	0.31	1.81	1.17	0.9	0.51	0.83	0.24	50/200	----
46923I	3/8"	0.31	1.85	1.17	0.9	0.51	0.83	0.22	50/200	----
46924I	1/2"	0.39	2.18	1.26	0.9	0.61	0.98	0.32	30/120	----

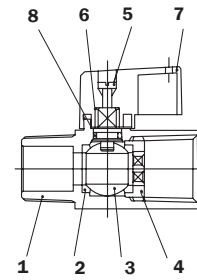


### Male x Female

PART#	SIZE		DIMENSION INCHES							BOX/CASE
	G	DN	A	B	C	E	CH	WTG		
46903I	1/4"	0.31	1.75	1.17	0.9	.40	0.83	0.20	50/200	----
46904I	3/8"	0.31	1.81	1.17	0.9	.41	0.83	0.20	50/200	----



POS	Components	Materials	N
1	Body	CW517N Forged Brass	1
2	Ball Seats	P.T.F.E	2
3	Ball	CW517N CP Brass	1
4	Ring Unit	CW614N Brass	1
5	Stem	CW614N Brass	1
6	Screw	UNI 5771 Steel	1
7	Handle	Aluminum	1
8	O-Ring	NBR 80	1



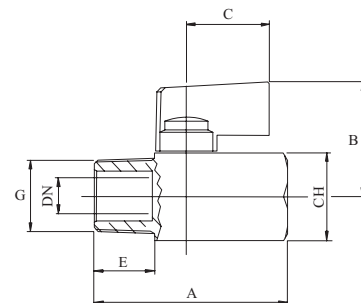
## YELLOW BRASS 1/4" MINI MALE X FEMALE VALVE

- Proprietary seal design extreme for low & high temperature applications
- -76° to +248°F temperature.
- Nominal working pressure 235 psi will handle 300psi@75° F
- One piece drawn sand blasted brass plated body. Solid chrome plate brass ball
- Double seal system allows valve to be operated in both directions making installation easier.
- Blowout-proof brass stem.
- NPT taper ANSI B1.20.1 threads.
- 1/4 TURN BLACK METAL HANDLE WITH MECHANICAL STOP.



MALE X FEMALE

MADE IN ITALY



Part#	Size		Dimension Inches							CASE
	NPT	DN	A	B	C	E	CH			
46903ISB	1/4"	0.315	1.75	1.18	0.91	0.48	0.83	200	----	

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MINI BALL VALVES

## VALVES

### MINI BALL VALVES

- Chrome plated forged brass body
- Chrome plated brass ball
- NPT taper ANSI B1.20.1 threads\*
- 450 PSI working pressure
- At 212°F - 355 PSI

- At 356°F - 142 PSI
- 1/4 Turn Alumzinc handle
- Not lead free
- Made in China

See page 107 for C/P Push-In mini ball valves



#### FEMALE X FEMALE - FLAG HANDLE

PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/CASE	
		A	D(FLOW)	F	G			
46934	1/8	1.57	0.24	0.93	1.46	0.21	20/300	----
46935	1/4	1.57	0.31	0.93	1.46	0.20	20/300	----
46936	3/8	1.57	0.28	0.93	1.46	0.22	20/300	----
46937	1/2	1.77	0.35	0.93	1.56	0.24	20/200	----

### MINI BALL VALVES W/VITON SEALS



#### FEMALE X FEMALE - LEVER HANDLE

PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/CASE	
		A	D(FLOW)	F	G			
46934L	1/8	1.57	0.24	1.99	1.50	0.21	20/300	----
46935L	1/4	1.57	0.31	1.99	1.50	0.20	20/300	----
46936L	3/8	1.60	0.28	1.99	1.50	0.22	20/300	----
46937L	1/2	1.77	0.35	1.99	1.59	0.24	20/200	----



#### FEMALE X FEMALE - TEE HANDLE

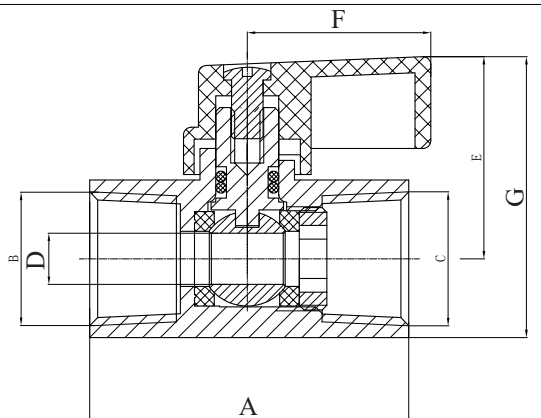
PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/CASE	
		A	D(FLOW)	HANDLE	G			
46934LT	1/8	1.60	0.24	1.34	1.43	0.21	20/300	----
46935LT	1/4	1.57	0.31	1.34	1.43	0.20	20/300	----
46936LT	3/8	1.60	0.28	1.34	1.43	0.22	20/300	----



#### FEMALE X FEMALE - SCREWDRIVER

PART #	SIZE	DIMENSIONS (IN)		WT LBS	BOX/CASE	
		A	D(FLOW)			
46934LS	1/8	1.57	0.24	0.21	20/300	----
46935LS	1/4	1.57	0.31	0.20	20/300	----
46936LS	3/8	1.57	0.28	0.22	20/300	----
46937LS	1/2	1.77	0.35	0.24	20/200	----

- Not lead free



Pos	Components	Materials	N
1	Body	CP Forged Brass	1
2	Ball Seats	P.T.F.E.	2
3	Ball	CP Brass	1
4	Ring Unit	Brass	1
5	Stern	Brass	1
6	O-Ring - flag handle	NBR 80	1
6	O-Ring - all others	Viton	1

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MINI BALL VALVES

## VALVES

### MINI BALL VALVES

- Chrome plated forged brass body
- Chrome plated brass ball
- NPT taper ANSI B1.20.1 threads\*
- 450 PSI working pressure
- At 212°F - 355 PSI
- At 356°F - 142 PSI
- 1/4 Turn Alumzinc handle
- Not lead free
- Made in China



#### MALE X FEMALE - FLAG HANDLE

PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/ CASE	
		A	D(FLOW)	F	G			
46930	1/8	1.57	0.24	0.93	1.46	0.17	20/300	----
46931	1/4	1.57	0.31	0.93	1.46	0.15	20/300	----
46932	3/8	1.57	0.28	0.93	1.46	0.21	20/300	----
46933	1/2	1.77	0.35	0.93	1.56	0.24	20/200	----

### MINI BALL VALVES W/VITON SEALS

#### MALE X FEMALE - LEVER HANDLE



PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/ CASE	
		A	D(FLOW)	F	G			
46930L	1/8	1.57	0.24	1.99	1.50	0.17	20/300	----
46931L	1/4	1.57	0.31	1.99	1.50	0.15	20/300	----
46932L	3/8	1.57	0.28	1.99	1.50	0.21	20/300	----
46933L	1/2	1.77	0.35	1.99	1.59	0.24	20/200	----

#### MALE X FEMALE - TEE HANDLE



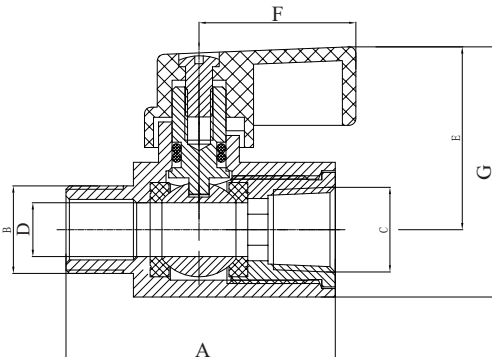
PART #	SIZE	DIMENSIONS (IN)				WT LBS	BOX/ CASE	
		A	D(FLOW)	HANDLE	G			
46930T	1/8	1.57	0.24	1.34	1.46	0.17	20/300	----
46931T	1/4	1.57	0.31	1.34	1.46	0.15	20/300	----
46932T	3/8	1.57	0.28	1.34	1.40	0.21	20/300	----
46933T	1/2	1.77	0.35	1.34	1.56	0.24	20/200	----

#### MALE X FEMALE - SCREWDRIVER



PART #	SIZE	DIMENSIONS (IN)		WT LBS	BOX/ CASE	
		A	D(FLOW)			
46930S	1/8	1.57	0.24	0.17	20/300	----
46931S	1/4	1.57	0.31	0.15	20/300	----
46932S	3/8	1.57	0.28	0.21	20/300	----
46933S	1/2	1.77	0.35	0.24	20/200	----

- Not lead free



Pos	Components	Materials	N
1	Body	CP Forged Brass	1
2	Ball Seats	P.T.F.E.	2
3	Ball	CP Brass	1
4	Ring Unit	Brass	1
5	Stern	Brass	1
6	O-Ring - flag handle	NBR 80	1

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FORGED BRASS MINI BALL VALVES

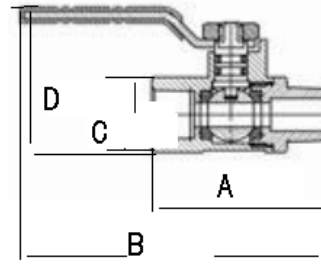
VALVES

## FORGED BRASS MINI-BALL VALVES

- 180° operational handle, blow out proof stem. Stem with double "O" Rings
- 200 WOG
- Temp rating -20°F - 250°F
- Generic Handles
- Not lead free

See page 107 for C/P mini ball valves

NO	Part Name	Material	QTY
1	Nut	Steel	1
2	Handle	Steel	1
3	Cover	PVC	1
4	O-Ring	NBR	2
5	Stem	Brass	1
6	Body	Brass	1
7	Seat	Teflon	2
8	Ball Disc	Brass	1
9	End Plug	Brass	1



FEMALE X FEMALE

PART #	SIZE	A	B	C	D	
944113	1/8	1.53	2.80	0.73	1.42	----
944116	1/4	1.53	2.80	0.73	1.42	----
944117	3/8	1.73	2.90	0.87	1.50	----
944140	1/2	2.20	3.08	0.98	1.45	----



HOSE BARB X MALE

PART #	SIZE	A	B	C	D	
944132	1/4X1/8	2.05	2.91	0.73	1.51	----
944138	1/4X1/4	2.08	2.98	0.73	1.51	----
944128	3/8X1/4	2.08	3.04	0.73	1.51	----
944130	3/8X3/8	2.12	3.06	0.73	1.51	----
944139	1/2X1/2	2.15	3.19	0.73	1.51	----



FEMALE X MALE

PART #	SIZE	A	B	C	D	
944106	1/8	1.69	3.02	0.73	1.46	----
944100	1/4X1/8	1.28	2.90	0.66	1.32	----
944101	1/4	1.70	3.00	0.73	1.46	----
944103	3/8	1.78	3.02	0.87	1.50	----
944102	3/8X1/4	1.78	2.50	0.89	1.50	----



HOSE BARB X FEMALE

PART #	SIZE	A	B	C	D	
944135	1/8X1/8	1.78	2.44	0.62	1.38	----
944136	1/4X1/4	1.97	2.87	0.73	1.55	----



MALE X MALE

PART #	SIZE	A	B	C	D	
944107	1/8	1.70	2.94	0.65	1.42	----
944109	1/4	1.25	2.66	0.65	1.42	----
944110	3/8	1.90	2.98	0.73	1.42	----
944112	1/2	2.56	4.93	1.02	2.21	----



HOSE BARB X HOSE BARB

PART #	SIZE	A	B	C	D	
944142	1/4X1/4	2.47	3.19	0.73	1.55	----
944134	3/8X3/8	2.47	3.18	0.73	1.55	----

### LEAD FREE

PART #	SIZE	A	B	C	D	
944142LF	1/4	2.49	3.19	0.73	1.55	----
944134LF	3/8	2.47	3.18	0.73	1.55	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

VALVES



# 3 WAY BALL VALVE

VALVES

## SIDE OUTLET 3-WAY BALL VALVE

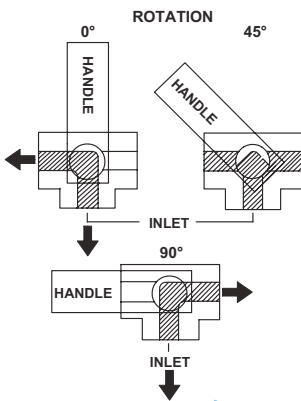
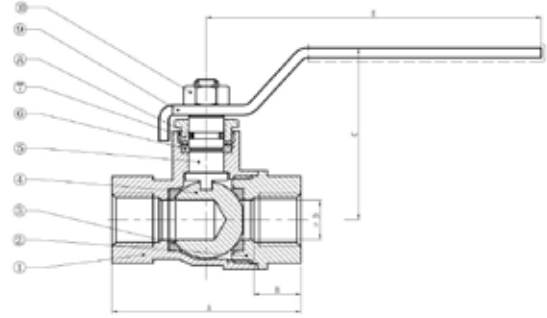
- BRASS
- 600WOG
- FULL PORT



- Forged Brass
- 600 WOG
- Temp Rating 0-230°F
- 150 SWP



• Side outlet



- Full Port
- Blow-out proof stem
- double o-ring stem packing
- PTFE Seal
- Made in China
- Not lead free

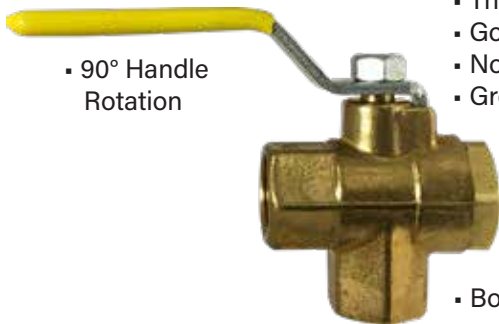
### Nomenclature & Materials

NO	Part Name	Material	Qty
1	Body	Brass	1
2	End Cap	Brass	1
3	Ball Seat	PTFE	1
4	Ball	Brass	1
5	Stem	Brass	2
6	Seal	PTFE	1
7	Impacted Nut	Brass	1
8	O-Ring	NBR	2
9	Lever Handle	Steel	1
10	Stem Nut	Steel	1

PART#	SIZE	I	H	D	L	A	WTG	BOX/CASE
940464	1/4"	1.89	1.73	0.39	3.58	0.47	0.51	50/100
940465	3/8"	1.89	1.73	0.39	3.35	0.47	0.57	50/100
940461	1/2"	2.11	1.80	0.50	3.58	0.51	0.65	30/60
940462	3/4"	2.56	2.16	0.74	4.31	0.55	0.99	20/40

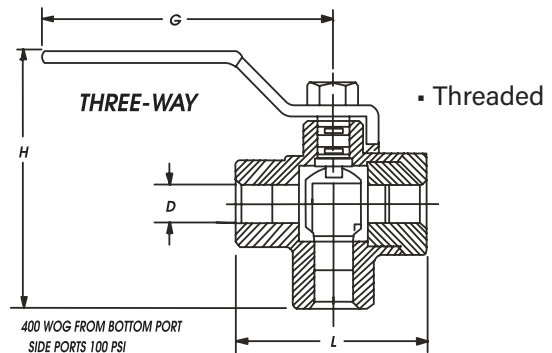
### BOTTOM OUTLET 3 WAY BALL VALVE

- Forged Brass
- Teflon ball seats
- Bottom Port is inlet 400 psi
- Double O-Ring Stem Seals - primary seal is Viton secondary seal is Aflas
- Side Ports are inlet 100 psi
- Blow out proof stem
- Made in USA
- Threaded ports
- Good for propane
- Not lead free
- Great for diesel fuel



• 90° Handle Rotation

• Bottom outlet



PART#	SIZE	D	G	H	L	CV	WTG
940121	1/4"	.44	3.50	3.12	2.25	5.2	0.76
940122	3/8"	.50	3.50	3.12	2.25	5.5	0.69
940123	1/2"	.50	3.50	3.12	2.25	5.5	1.00

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MISCELLANEOUS VALVES

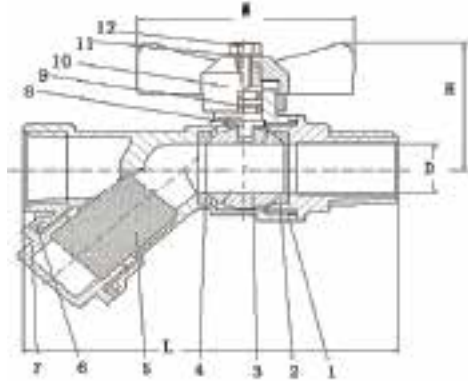
## VALVES

### BRASS BALL VALVE WITH STRAINER

All-in-One design for economical ,compact and convenient .With stamped stainless Steel Screen . 600PSI WOG Forged brass body,Crome plated ball ,PTFE ball seats and cap seal , and rubber o-ring stem seals. Not lead free



Part #	Part Name	Material
1	Body	Brass
2	Caps	Brass
3	Ball	Brass,Cr. Plated
4	Seat	PTFE
5	Filter	SS
6	Gasket	PTFE
7	Caps	Brass
8	Stem	Brass
9	O-Ring	Viton
10	Handle	Zinc



PART #	SIZE	L	D	W	H	WTG	BOX/CASE	
947133	1/2"x1/2"(MxF)	3.77"	0.59"	2.00"	1.50"	0.60	8/64	----
947134	3/4"x3/4"(MxF)	4.32"	0.75"	2.40"	1.85"	1.00	8/64	----

### VACUUM BREAKER

- Male hose and female hose threads can be broken off for permanent attachment
- Set screw
- Vandal proof
- Rough brass construction
- Prevents back-siphonage on hoses to prevent potable water from getting contaminated
- Certified under ASSE Std. 1011
- UPC
- CSA



PART #	SIZE	
947055	3/4" x 3/4"	----
947055LF	3/4" x 3/4"	----

### RADIATOR AIR VALVE

COIN SLOT OR LOSSE KEY



PART #	SIZE	
943284	1/8" MIP	----
943287	Key only	----

### ANGLE SILLCOCKS

3/4" HOSE THREAD OUTLET

- Notched flange for convenient installation.
- Heavy brass construction.
- Cast Iron handle.
- Not lead free



PART #	SIZE	BOX	
942142	1/2"	12	----

### HOSE BIBBS

3/4" HOSE THREAD OUTLET



PART #	SIZE	WTG	BOX/CASE	
942170	1/2 (1/2"C)	0.33	10/100	----
942171	3/4"	0.35	10/100	----

### BENT NOSE GARDEN VALVES

- Heavy brass construction
- Cast iron handle
- Stuffing box
- Neoprene seal disc

PART #	SIZE	BOX	CASE	
942100	1/2"	12	72	----
942101	3/4"	12	72	----
942102	1"	12	72	----



**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**BRASS GATE VALVE**

VALVES

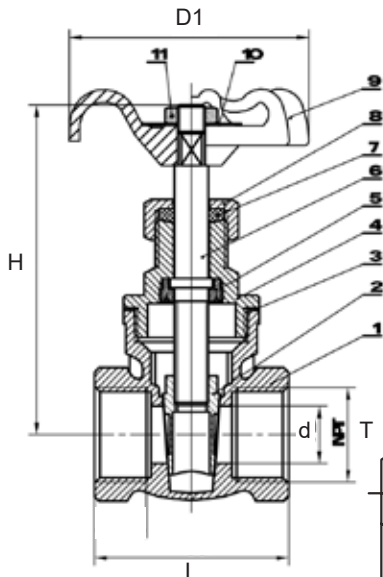
**BRASS GATE VALVE**

• BRASS • 200WOG • FULL PORT

- 200 WOG (cold water, oil, gas).
- Full-port design for a better water flow.
- Screw-in Bonnet - Non-Rising Stem - Solid Wedge
- NPT Threaded ends to ANSI B1.20.1
- Cast iron handle.
- Each valve individually air tested under water.
- Good for diesel fuel.
- Made in Indonesia
- Not lead free
- Temp. 32°-320°F

**BRASS GATE VALVES IPS**

PART#	SIZE	L	H	D1	D	T	S1	WEIGHT	BOX/CASE	
940130	1/4	1.64	2.91	2.09	0.44	1/4-18 NPT	.85	0.60	10/120	----
940131	3/8	1.71	2.91	2.09	0.48	3/8-18 NPT	.85	0.59	10/120	----
940132	1/2	1.71	2.91	2.09	0.50	1/2-14 NPT	1.03	0.75	10/120	----
940133	3/4	1.71	3.06	2.13	0.74	3/4-14 NPT	1.26	0.83	10/80	----
940134	1	2.13	3.60	2.48	0.97	1-11.5 NPT	1.51	1.24	5/60	----
940135	1-1/4	2.24	4.50	2.66	1.22	1-1/4-11.5 NPT	1.89	1.69	5/40	----
940136	1-1/2	2.44	5.08	3.15	1.45	1-1/2-11.5 NPT	2.17	2.17	5/30	----
940137	2	2.70	5.94	3.52	1.85	2-11.5 NPT	2.60	3.33	2/24	----
940138	2-1/2	3.70	7.87	3.98	2.48	2-1/2-8 NPT	3.27	6.26	1/10	----
940139	3	4.02	8.82	4.37	2.80	3-8 NPT	3.86	8.34	1/6	----
940140	4	4.53	9.88	4.74	3.60	4-8 NPT	4.88	13.09	1/4	----



	Description	Material
1	Body	C85700
2	Disk	C85700
3	Seat	PTFE
4	Cap	C85700
5	Packing	C85700
6	Stem	C85700
7	Rubber Seat	NBR
8	Packing Nut	C85700
9	Handle	Cast Iron
10	Nameplate	AL

**Crown handle**

1/2-1/4

**X handle**

1/2-1/4



Add "C" to part# for Crown handle,  
"X" for X handle.

See page 218 for SS  
Gate Valve



See Lead Free section page 182  
for lead free Gate Valves.



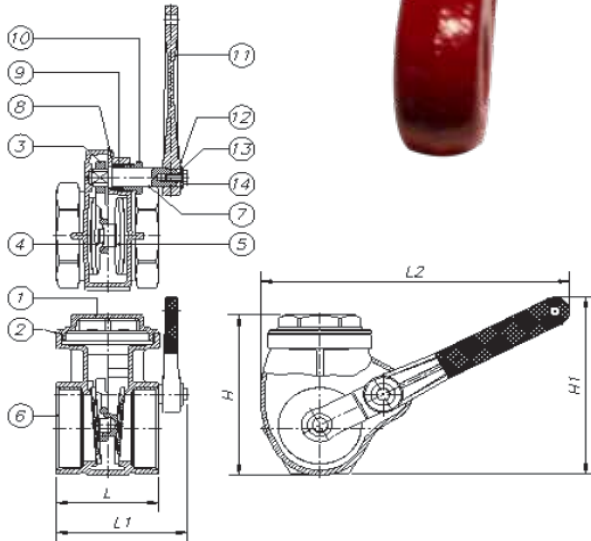
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# QUICK OPENING GATE VALVE

VALVES

## GATE VALVE QUICK OPENING

Features: Bronze Material, Threaded Ends



### MATERIAL SPECIFICATION

No.	Part	Bronze
1	BONNET	BRASS ( C85700 )
2	PACKING	FIBRE
3	ARM	BRASS ( C85700 )
4	DISC MALE	BRASS ( C85700 )
5	DISC FEMALE	BRASS ( C85700 )
6	BODY	BRASS ( C85700 )
7	STEM	BRASS ( C37700 )
8	WASHER	BRASS ( C37700 )
9	PACKING	TEFLON POLYFLON ( PTFE M-392 )
10	PACKING NUT	BRASS ( C37700 )
11	HANDLE	CAST IRON ( JIS ZZ2202 ) RUBBER COATING BRASS ( C85700 )
12	NAME PLATE	ALUMINIUM ( A1100 )
13	WASHER	HOT ROLLED ( SAE 1010R )
14	HANDLE BOLT	HOT ROLLED ( SAE 1010R )

PART #	SIZE	L	L1	L2	H	H1	BOX	CASE	
941133	1/2"	45.6	60.6	119	56.8	52.8	10	50	----
941134	3/4"	51	62	126.3	68	87.5	10	50	----
941135	1"	58.3	72.3	155	78.7	90.2	10	30	----
941136	1-1/4"	30.1	78	180.2	89.5	104	5	25	----
941137	1-1/2"	66.7	85.3	196.6	99.2	131	6	18	----
941138	2"	76.4	90.3	250.6	119.3	143.7	2	10	----
941140	3"	101	129.2	305.6	172.2	191.3	2	6	----
941141	4"	114.5	150.7	378.2	213.5	248.6	1	2	----

Ignorance, the root and stem of all evil. - Plato

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

VALVES

**Y-PATTERN STRAINER**

VALVES

**CLASS 150 BRASS Y-PATTERN STRAINER**

- Forged Brass body, size 1/4"-3".
- Pressure rating: 150 WOG (water, oil, gas)/PN25  
150 WSP (Saturated Stem)
- NPT Threaded ends to ANSI B1.20.1
- Protects regulators, pumps, meters and other controls from damage due to sediment scale, metal chips or other foreign materials.
- Screwed cap is threaded & gasketed.
- Tapped drain plug opening in cap.
- 304 stainless steel screen #20 mesh.
- Self cleaning.
- Self cleaning can be accomplished by opening the valve or plug connected to the blow-off outlet.
- Made in Indonesia
- NOT LEAD FREE
- w/20 Mesh Screen
- Temp 180°F



PART#	SIZE	L	H	C (PLUG)	WEIGHT	BOX/CASE	
940521	1/4"	2.57	1.95	NPT 3/8	.53	10/100	----
940522	3/8"	3.23	2.44	NPT 3/8	.71	12/48	----
940523	1/2"	3.23	2.44	NPT 3/8	.66	12/48	----
940524	3/4"	3.94	2.78	NPT 3/8	1.10	8/48	----
940525	1"	4.53	3.19	NPT 1/2	1.71	8/32	----
940526	1-1/4"	5.33	3.66	NPT 1/2	2.49	6/24	----
940527	1-1/2"	6.20	3.82	NPT 1/2	3.24	2/16	----
940528	2"	7.44	4.65	NPT 1/2	5.39	2/8	----
940529	2-1/2"	9.50	5.39	NPT 3/4	9.56	1/6	----
940530	3"	9.4	5.67	NPT 3/4	13.49	1/4	----

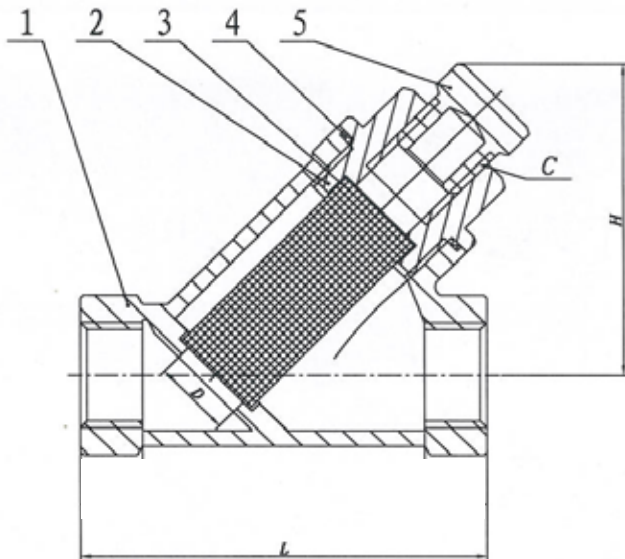
Add 'S' to part # for replacement



See page 172 for 1/2" Lead Free



See page 207 for SS Y Strainer



	Name	Material
1	BODY	C85700
2	BONNET	C85700
3	STRAINER	304 S.S.
4	SPRING SEAL	PTFE

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BRASS SWING CHECK VALVES

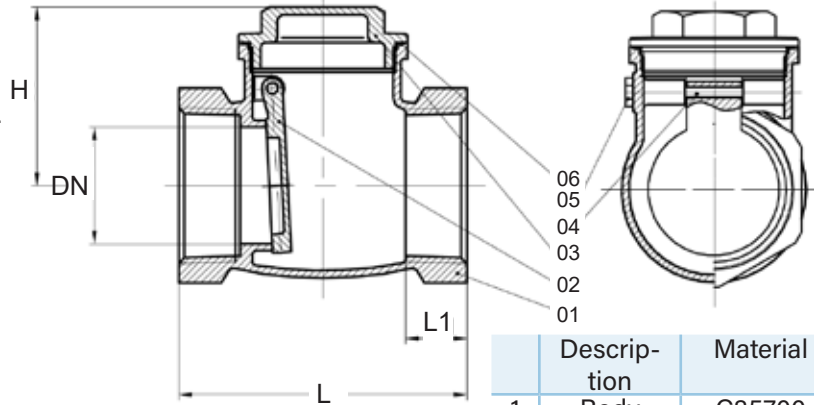
VALVES

## BRASS SWING CHECK VALVES

- Working pressure non-shock: 200 psi W.O.G. (cold water, oil, gas) 125 psi WSP (saturated steam)
- Swing type disc.
- Screwed Cap.
- Hard Seat.
- 90° Straight Pattern.
- Used to prevent reverse flow in commercial and industrial applications.
- Threaded ends to ANSI B1.20.1

- Integral seat.
- Temp range -5° - 150F°
- NOT LEAD FREE
- Cracking pressure 3-5 psi

• Made in Indonesia



	Description	Material
1	Body	C85700
2	Disc	C85700
3	Cap	C85700

### CAST BRASS SWING CHECK VALVES IPS SCREWED ENDS

PART #	SIZE	L	H	L1	DN	WEIGHT	BOX/CASE	
940352	1/2	2.09	1.42	0.531	0.512	.41	10/100	----
940353	3/4	2.36	1.56	0.579	0.728	.56	10/80	----
940354	1	2.62	1.77	0.748	0.925	.73	5/60	----
940355	1-1/4	3.19	2.07	0.748	1.201	1.36	5/40	----
940356	1-1/2	3.54	2.16	0.846	1.417	1.56	5/30	----
940357	2	4.21	2.74	0.886	1.772	2.58	2/20	----
940358	2-1/2	5.14	3.09	1.063	2.224	4.55	1/15	----
940359	3	5.77	3.80	1.102	2.579	6.53	1/6	----
940360	4	6.84	4.25	1.102	3.602	10.18	1/4	----



• See page 182 for Lead Free Brass Swing Check



• See page 218 for SS Swing Check Valves

### Y PATTERN BRASS SWING CHECK VALVE SCREWED ENDS



PART #	SIZE	
940-352B	1/2"	----
940-353B	3/4"	----
940-354B	1"	----
940-355B	1-1/4"	----
940-356B	1-1/2"	----
940-357B	2"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

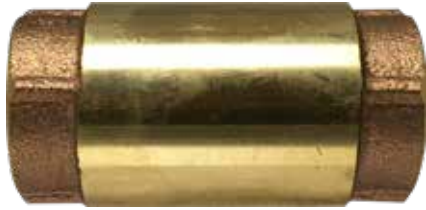
# BRASS CHECK VALVES

VALVES

## BRASS CHECK VALVES

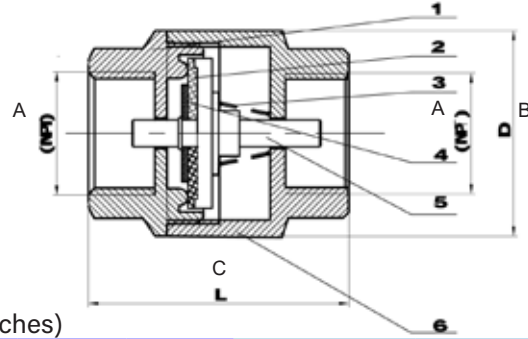
S.S. SPRING LOADED BRONZE POPPET - For positive sealing & self-cleaning. Insures against leakage.

- Inline Lift Type - Resilient Discs - Spring Actuated - Threaded.
- Pressure rating: 200 WOG (water, oil, gas) / 125 WSP (Saturated Steam)
- Spring in stainless steel AISI 304. • Resilient washer hold/ disc in brass. • Forged Brass Body for 1/2"-2"
- Corrosion resistant material. • Can be used vertically or horizontally. • Opens & Closes with flow of media.
- No cracking pressure. • NOT LEAD FREE • Made in Indonesia



1/4 Made in Taiwan

**Temp Range**  
-10°C - 110°C  
14°F - 248°F



Brass Check Valve (Inches)

Part#	Size	Enters Pipe Size	A NPT	B	C	Weight	Box/Case	
944428	1/4"	-	1/4"	1.00	2.29	.24	24/192	----
944429	3/8"	-	3/8"	1.00	2.07	.23	10/100	----
944430	1/2"	1-1/4"	1/2"	1.26	2.40	.42	10/100	----
944431	3/4"	1-1/4"	3/4"	1.45	2.74	.53	10/80	----
944432	1"	2"	1"	1.77	3.23	.80	6/60	----
944433	1-1/4"	2-1/2"	1-1/4"	2.13	3.62	1.18	4/40	----
944434	1-1/2"	3"	1-1/2"	2.29	4.04	1.40	5/30	----



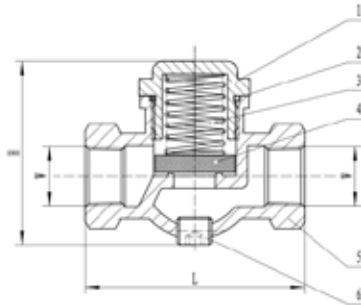
• See page 182 for Lead Free Brass Check



• See page 215 for SS Check Valves

## IN LINE CHECK VALVES VERTICAL OR HORIZONTAL

- Working Pressure: 250 PSI • Temperature Range: -40° to 450°F(-40°to 230°C)
- Cracking Pressure: 3 PSI • Made in China • Not lead free
- Applications: Air Compressor Discharge Lines, may also used on water or oil lines
- Construction: Cast Bronze Body, Corrosion Resistant Stainless Steel Spring to Ensure Long Life, 15% Glass Filled • Teflon Poppet, C360 Machined Brass Cap, 1/8 NPT Unloader Port is Standard • Repairable



Part#	Part Name	Material
6	Plug	Brass
5	Body	Bronze
4	Gasket	PTPF
3	Spring	S.Steel
2	O-ring	HNBR
1	Cap	Brass

PART #	SIZE	W	L	H	WTG	BOX/CASE	
947140	1/8"	1/8	1.75	1.34	0.28	20/100	----
947141	1/4"	1/4	1.75	1.37	0.29	20/100	----
947142	3/8"	3/8	2.50	2.18	0.62	10/50	----
947143	1/2"	1/2	2.50	2.13	0.54	10/50	----
947144	3/4"	3/4	2.88	2.64	1.17	8/40	----
947145	1"	1	3.61	3.30	1.98	2/20	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRASS IN-LINE CHECK VALVES

VALVES

## BRASS IN-LINE CHECK VALVES

High Capacity, Size 1/4"-2" 400 WOG, 2 1/2"-4" 175 WOG

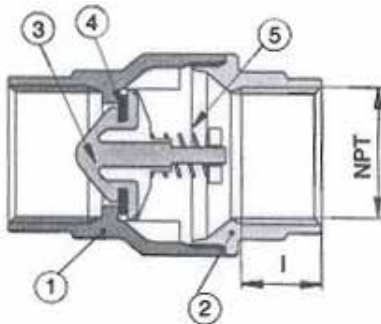
- Soft Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action.
  - Compact design.
  - Low Cracking Pressure 1/2 psi.
  - Flow Profile Designed to Minimize Head Loss.
  - Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 210°F.
  - Polyetherimide Disc to ensure the Best Resistance For Corrosion and Abrasion.
  - Patented Disc Guide to Prevent Any Side Loading.
  - Connection: FNPT x FNPT.
  - Made in Italy • Not lead free
- NBR for water, oils and general purpose.  
With VITON® Seal for fuels and hydrocarbons. Max working TEMPERATURE 325°F/125 psi steam

Add V to part# for Viton®



BRASS IN-LINE CHECK

PART#		SIZE	I	PSI	LBS	CASE	VITON PART#	
944401	----	1/4"	0.39	400	0.22	144		
944402	----	3/8"	0.40	400	0.18	144	944402V	----
944403	----	1/2"	0.60	400	0.32	144	944403V	----
944404	----	3/4"	0.65	400	0.49	90	944404V	----
944405	----	1"	0.66	400	0.71	90	944405V	----
944406	----	1-1/4"	0.68	400	1.13	30	944406V	----
944407	----	1-1/2"	0.68	400	1.53	30	944407V	----
944408	----	2"	0.69	400	2.28	12	944408V	----
944409	----	2-1/2"	0.93	175	4.83	4	944409V	----
944410	----	3"	1.01	175	6.70	4	944410V	----
944411	----	4"	1.09	175	12.43	2	944411V	----



NO	Part	Material	PCS
1	BODY	BRASS	1
2	END CONNECTION	BRASS	1
3	DISC	POLYETHERIMIDE	1
4	SEAT	100002 NBR	1
		100003 Viton	1
5	SPRING	STAINLESS STEEL	1

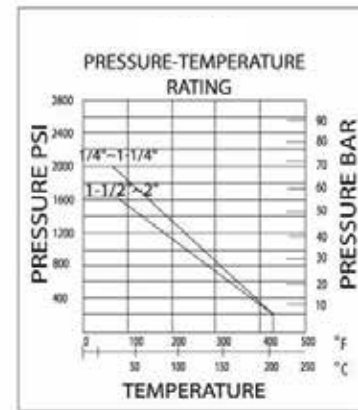
**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**316 SS FULL PORT VALVES**

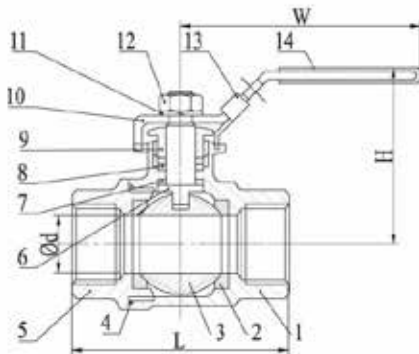
VALVES

**316 SS 2-PC BALL VALVE, FULL PORT, THREADED END, 2000 PSI**

- Investment Castings for body and cap.
- Internal Entry blow-out proof stem.
- Pressure rating: 2000PSI.
- Threaded Ends: ANSI B2,1
- Material: CF8M (316SS)
- Pressure test: API 598
- Generic Handles

**LOCKING HANDLE**

PART#	SIZE	D	L	H	W	N.M	LBS/ PC	CASE	
949171	1/4"	0.36	2.13	2.13	4.33	.157	0.64	80	----
949172	3/8"	0.50	2.13	2.16	4.33	.157	0.58	80	----
949173	1/2"	0.59	2.24	2.28	4.53	.197	0.71	70	----
949174	3/4"	0.79	2.76	2.40	4.53	.315	1.18	50	----
949175	1"	0.98	3.50	3.03	6.04	.394	2.33	30	----
949176	1-1/4"	1.25	4.12	3.19	6.04	.551	3.48	20	----
949177	1-1/2"	1.50	4.05	3.54	6.10	.709	4.03	14	----
949178	2"	1.96	4.90	4.25	6.10	.984	7.50	7	----



NO	Part	Material	QTY
1	BODY	316SS	1
2	BALL SEAT	PTFE	2
3	BALL	316SS	1
4	BODY SEAL	PTFE	1
5	CAP	316SS	1
6	STEM	SS316	1
7	THRUST WASHER	PTFE	1
8	PACKING	PTFE	1
9	GLAND NUT	SS304	1
10	HANDLE	SS304	1
11	WASHER	SS304	1
12	NUT	SS304	1
13	LOCK DEVICE	SS304	1
14	HANDLE COVER	PLASTIC	1

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# 316 SS STANDARD PORT VALVES

VALVES

## ONE PIECE STANDARD PORT BALL VALVE

316 Stainless Steel

1000 PSI

- Manufactured for harsh environments with female NPT threads.
- Locking handle for greater security.
- Standard port has restricted flow.
- Made with corrosion resistant stainless steel materials.
- PTFE seat and seals.
- Investment Castings for Body and Cap.
- Internal Entry Blow-out proof stem.
- Pressure rating: 1000PSI (PN63)
- Threaded Ends: ANSI B2.1
- Material: CF8M
- Pressure Test: API 598
- Generic handles

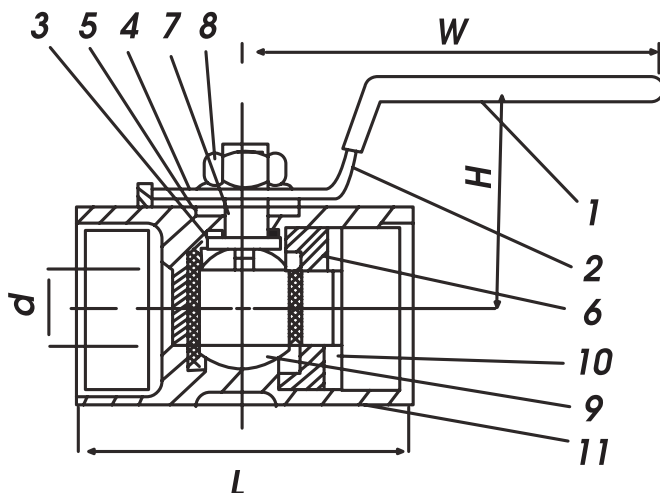


### LOCKING HANDLE

Valves will accept a pad-lock on the handle.

PART#	SIZE	D	L	H	W	dimensions (inches)		
						WEIGHT	CASE	
949101	1/4"	0.20	1.53	1.53	3.03	0.19	150	----
949102	3/8"	0.27	1.74	1.53	3.03	0.23	150	----
949103	1/2"	0.36	2.24	1.73	3.46	0.41	100	----
949104	3/4"	0.50	2.32	1.89	3.46	0.63	70	----
949105	1"	0.59	2.80	2.24	4.29	0.86	50	----
949106	1-1/4"	0.79	3.07	2.32	4.29	1.34	30	----
949107	1-1/2"	0.98	3.26	2.76	5.14	2.00	25	----
949108	2"	1.25	3.94	2.24	6.50	2.88	15	----

Larger sizes available on special order basis



Item	Parts	Material
1	Plastic Cover	Plastic
2	Handle	AISI 304 SS
3	Thrust Washer	PTFE
4	Packing Ring	AISI 304 SS
5	Stem Packing	PTFE
6	Seat	PTFE
7	Seat	AISI 316 SS
8	Stem Nut	AISI 304 SS
9	Ball	316SS ASTM-A351 CF8M
10	Cap	316SS ASTM-A351 CF8M
11	Body	316SS ASTM-A351 CF8M

SS = Stainless Steel

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**316 SS TWO PIECE FULL PORT VALVES**

VALVES

**TWO PIECE FULL PORT BALL VALVE**

316 Stainless Steel

**1000 PSI**

Materials: CFM8M (SS316)

## Features:

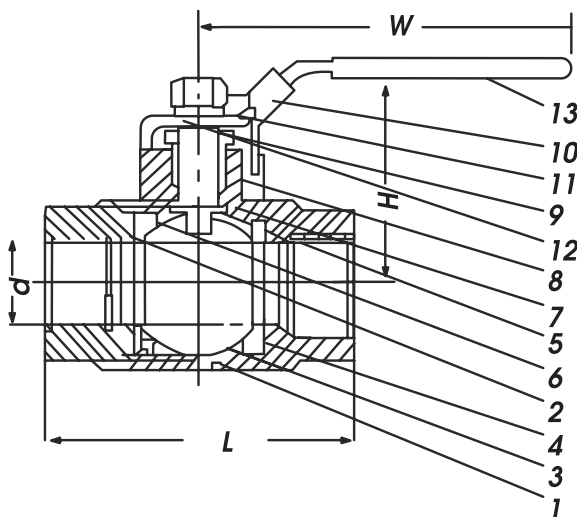
- Quality manufactured for harsh environments.
- Corrosion resistant.
- Investment Casting body
- Working pressure 1000 psi for W.O.G.
- Adjustable stem packing
- Pure teflon seals and seats
- Temperature range: -60 to 450°F
- Blow-out proof stem and safe pressure-reducing hole
- 100% leakage tested at 100 psi air under water
- Hydrostatic test pressure: 1500 psi
- Locking handle w/ blue generic sleeve
- 125 Steam rated
- Generic Handles



Valves will accept a pad-lock on the handle.

dimensions (inches)

PART#	SIZE	D	L	H	W	WEIGHT	CASE	
949161	1/4"	0.36	2.13	2.13	4.33	0.51	80	----
949162	3/8"	0.50	2.13	2.16	4.33	0.49	80	----
949163	1/2"	0.59	2.24	2.28	4.17	0.69	70	----
949164	3/4"	0.79	2.68	2.40	4.17	1.03	50	----
949165	1"	0.98	3.15	2.50	4.88	1.40	30	----
949166	1-1/4"	1.26	3.58	3.19	5.04	2.17	20	----
949167	1-1/2"	1.49	4.05	3.54	6.10	3.33	12	----
949168	2"	1.97	4.88	4.25	6.13	6.02	7	----
949170	3"	3.15	7.28	5.71	9.06	21.01	2	----
949180	4"	3.94	8.84	7.28	11.10	36.18	1	----



Item	Parts	Material
1	Body	316SS ASTM-A351 CF8M
2	Body Cap	316SS ASTM-A351 CF8M
3	Ball	316SS ASTM-A351 CF8M
4	Seat	Reinforced PTFE
5	Stem	AISI 316 SS
6	Seal	Reinforced PTFE
7	Thrust Washer	Reinforced PTFE
8	Packing	Reinforced PTFE
9	Gland Nut	AISI 304SS
10/11	Nut & Washer	AISI 304SS
12	Handle	AISI 304SS
13	Plastic Cover	Plastic

SS = Stainless Steel

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 316 SS MINI BALL VALVES

VALVES

## STAINLESS STEEL MIN BALL VALVES

- 316 Stainless Steel
- Working pressure 400PSI
- Working Temperature -10°C to 150°C



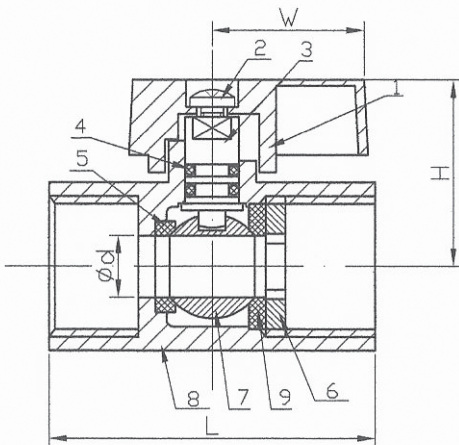
### FEMALE PIPE x FEMALE PIPE

PART#	SIZE	W	D	H	L	WEIGHT	CASE	
46934SS	1/8"	.898	.197	.985	1.693	.18	150	----
46935SS	1/4"	.898	.276	.984	1.693	.21	150	----
46936SS	3/8"	.898	.276	.984	1.693	.19	150	----
46937SS	1/2"	.898	.362	1.114	1.811	.26	100	----



### MALE PIPE x FEMALE PIPE

PART#	SIZE	W	D	H	L	WEIGHT	CASE	
46930SS	1/8"	.898	.197	.985	1.693	.18	150	----
46931SS	1/4"	.898	.276	.984	1.693	.18	150	----
46932SS	3/8"	.898	.276	.984	1.693	.19	150	----
46933SS	1/2"	.898	.362	1.114	1.811	.26	100	----



NO	Part	Material	QTY
1	LEVER	ALUMINIUM ALLOY	1
	HANDLES	PLASTIC	
2	BOLT	304	1
3	STEM	304/ 316	1
4	"O" RING	NBR	1~2
5	BALL SEAT (A)	PTFE	1
6	CAP	CF8/ CF8M	1
7	BALL	CF8/ CF8M	1
8	BODY	CF8/ CF8M	1
9	BALL SEAT (B)	PTFE	1

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**316 SS MINI BALL VALVES**

## VALVES

**MINI STAINLESS STEEL BALL VALVE ,WITH BUTTERFLY HANDLE**

1000PSI WOG , 150PSI WSP

Temperature Range: -36°F to + 368°F

Full Port for 1/4" , Standard port for 3/8" and 1/2"

316 Stainless Steel body and Ball

Teflon seats and sealing

• Viton O-Ring

• #316 Stainless Steel

• Made in China

**FEMALE PIPE X FEMALE PIPE**

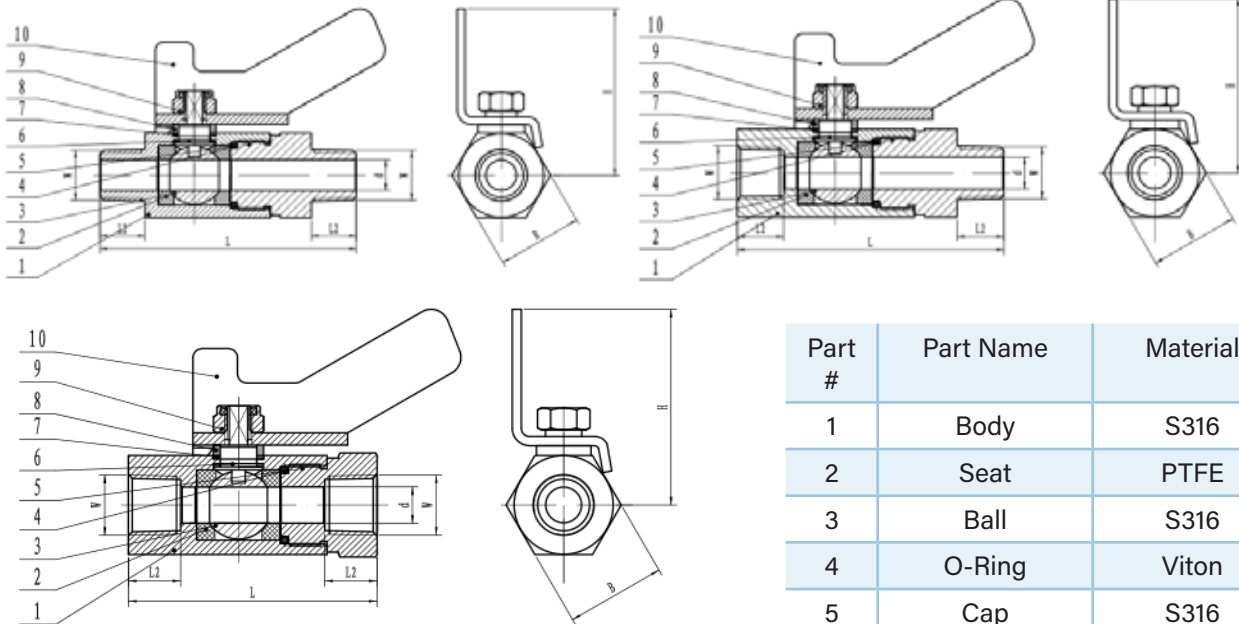
PART #	SIZE FIP X FIP	DIMENSIONS IN				WTG	BOX	
		D	L	B (HEX)	H			
46922SS	1/4"×1/4"	0.314"	2.34"	22.1/0.87"	1.5"	0.33	36	----
46923SS	3/8"×3/8"	0.314"	2.39"	22.1/0.87"	1.5"	0.39	36	----
46924SS	1/2"×1/2"	0.314"	2.81"	24.9/0.98"	1.5"	0.43	36	----

**MALE PIPE X FEMALE PIPE**

PART #	SIZE MIP X FIP	DIMENSIONS IN				WTG	BOX	
		D	L	B (HEX)	H			
46903SS	1/4"×1/4"	0.314"	2.45"	0.87"	1.5"	0.39	36	----
46904SS	3/8"×3/8"	0.314"	2.45"	0.87"	1.5"	0.36	36	----
46905SS	1/2"×1/2"	0.314"	2.81"	0.98"	1.5"	0.41	36	----

**MALE PIPE X MALE PIPE**

PART #	SIZE MIP X MIP	DIMENSIONS IN				WTG	BOX	
		D	L	B (HEX)	H			
46912SS	1/4"×1/4"	0.314"	2.59"	0.87"	1.5"	0.33	36	----
46913SS	3/8"×3/8"	0.314"	2.65"	0.87"	1.5"	0.34	36	----
46914SS	1/2"×1/2"	0.314"	2.47"	0.98"	1.5"	0.63	36	----



Part #	Part Name	Material
1	Body	S316
2	Seat	PTFE
3	Ball	S316
4	O-Ring	Viton
5	Cap	S316
6	Stem	S316
7	Stem Bottom Seal	PTFE
8	Stem Up Seal	PTFE

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 304 SS CHECK VALVES

VALVES

## #304 STAINLESS STEEL CHECK VALVE

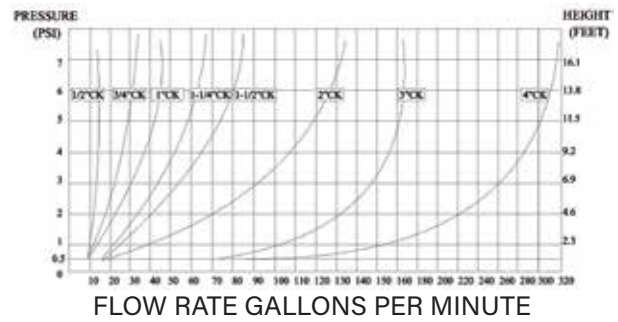
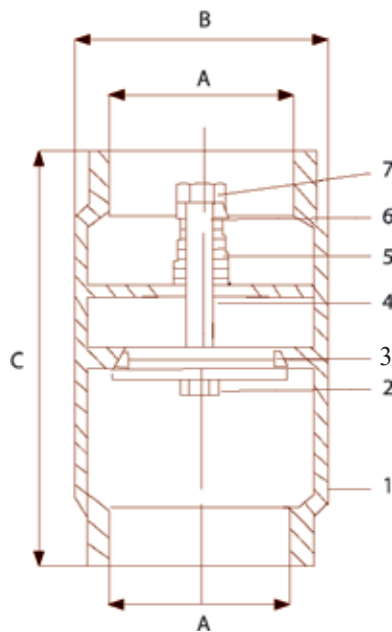
- No Lead.
- Water wells need a check valve installed above the pumps between lengths of drop pipes.
- Opens & Closes with flow of media.
- No cracking pressure.
- Working pressure unavailable.
- Made in Taiwan



DIMENSIONS (INCHES)

PART#	SIZE	A NPT	B	C	BOX/CASE	
949430	1/2"	1/2"	1.26	2.43	10/100	----
949431	3/4"	3/4"	1.50	2.72	10/80	----
949432	1"	1"	1.77	3.23	10/60	----

More sizes available on a special order basis.



Part	Material
1 Body	S.S 304
2 Stopper	S.S 304
3 O-Ring	Viton
4 Washer	PE
5 Spring	S.S 304
6 Cap	S.S 304
7 Nut	S.S 304

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**SS IN-LINE CHECK VALVES**

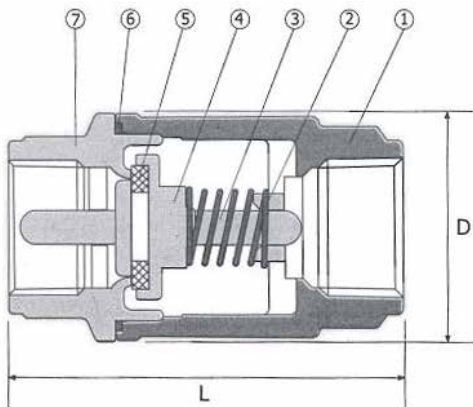
VALVES

**STAINLESS STEEL IN-LINE CHECK VALVE****High Capacity, Size 1/4"-2" 800 WOG**

- Soft PTFE Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action
- Low Cracking Pressure 1/2 psi.
- Flow Profile Designed to Minimize Head Loss.
- Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 450°F.
- Corrosion Resistant-Excellent for use on Chemicals.
- ASTM A351-CF8M Investment Casting.
- Connection: FNPT x FNPT.
- 125WSP Saturated Steam.
- ANSI B1.20.1 Threads.
- Dual Guided Stem & Disc.
- Made in Italy

**STAINLESS STEEL IN-LINE CHECK**

PART#	SIZE	D	L	PSI	LBS	
949401	1/4"	1.15	2.25	800	0.36	----
949402	3/8"	1.16	2.25	800	0.34	----
949403	1/2"	1.35	2.31	800	0.40	----
949404	3/4"	1.81	2.87	800	0.85	----
949405	1"	2.13	3.50	800	1.30	----
949406	1-1/4"	2.46	4.18	800	2.50	----
949407	1-1/2"	2.88	4.93	800	3.40	----
949408	2"	3.56	6.00	800	6.0	----



	Part	Material	PCS
1	BODY	ASTM A351-CF8M	1
2	SPRING	SS316	1
3	CENTER GUIDE	ASTM A351-CF8M	1
4	DISC	ASTM A351-CF8M	1
5	SEAT	PTFE	1
6	GASKET	PTFE	1
7	END CAP	ASTM A351-CF8M	1

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)





# 316 SS SPRING CHECK VALVES

VALVES

## SPRING CHECK VALVE

- Working Pressure: 1500PSI (PN100)
- Working Temperature: -10 -150°C
- Opening Pressure: 2~3PSI
- Suitable Medium: W.O.G.
- Threaded End: NPT
- Made in China

### FEMALE PIPE x FEMALE PIPE



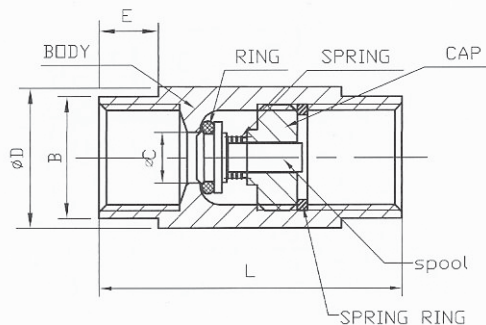
PART#	SIZE	L	C	D	B	E	LBS/PC	CASE	
949451	1/4"	2.165	.217	.748	.699	.394	.19	200	----
949452	3/8"	2.165	.295	.866	.787	.394	.21	160	----
949453	1/2"	2.165	.413	1.063	.945	.472	.31	100	----
949454	3/4"	2.677	.591	1.417	1.26	.472	.71	60	----
949455	1"	3.268	.787	1.693	1.496	.591	1.14	36	----

### MALE PIPE x FEMALE PIPE



PART#	SIZE	L	C	D	B	E	LBS/PC	CASE	
949471	1/4"	2.165	.217	.748	.699	.394	.176	200	----
949472	3/8"	2.165	.295	.866	.787	.394	.22	160	----
949473	1/2"	2.165	.413	1.063	.945	.472	.27	100	----
949474	3/4"	2.677	.591	1.417	1.26	.472	.62	65	----
949475	1"	3.268	.787	1.693	1.496	.591	1.05	40	----

FLOWS MALE -> FEMALE



NO	Part	Material	QTY
1	BODY	316	1
2	RING	Rubber	1
3	SPRING	304	1
4	CAP	CF8M	1
5	SPOOL	304/316	1
6	SPRING RING	304	1

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**SS Y-SPRING/ BARREL CHECK VALVES**

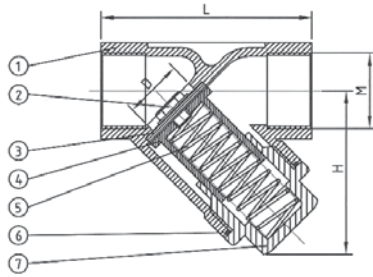
VALVES

**Y-SPRING CHECK VALVE**

- Working Pressure: 800PSI (PN55)
- Working Temperature: -10 -150°C
- Opening Pressure: 1.5PSI
- Suitable Medium: W.O.G.
- Made in China



PART#	SIZE	L	H	D	LBS/ PC	CASE	
949481	1/4"	2.559	1.661	.472	.44	70	----
949482	3/8"	2.559	1.661	.472	.51	70	----
949483	1/2"	2.559	1.634	.591	.51	100	----
949484	3/4"	3.15	2.067	.787	.93	80	----
949485	1"	3.543	2.657	.984	1.25	40	----
949486	1-1/4"	4.134	2.795	1.26	2.20	30	----
949487	1-1/2"	4.724	3.169	1.575	3.24	24	----
949488	2"	5.512	3.74	1.969	5.21	10	----



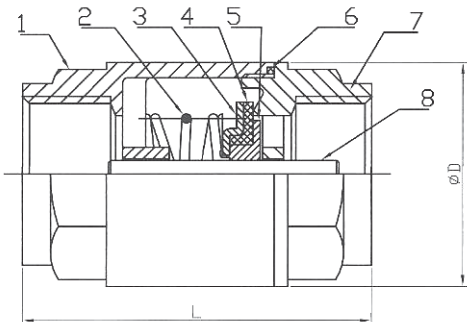
NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	Teflon	1
4	DISC	304	1
5	SPRING	304	1
6	GASKET	Teflon	1
7	CAP	CF8M/ CF8	1

**2PC BARREL TYPE SPRING CHECK VALVE**

- Working Pressure: 300PSI (PN20)
- Working Temperature: -10 -120°C
- Opening Pressure: 2PSI
- Suitable Medium: W.O.G.
- Threaded end: NPT
- Made in China



PART#	SIZE	L	D	LBS/ PC	CASE	
949441	1/4"	2.00	1.142	.27	100	----
949442	3/8"	2.00	1.142	.24	100	----
949443	1/2"	2.24	1.28	.36	100	----
949444	3/4"	2.44	1.594	.54	60	----
949445	1"	2.95	1.89	.88	30	----
949446	1-1/4"	3.23	2.362	1.39	18	----
949447	1-1/2"	3.46	2.756	1.81	25	----
949448	2"	3.94	3.425	2.86	14	----



NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	NBR	1
4	DISC	304	1
5	SPRING	316/ 304	1
6	GASKET	PTFE	1
7	CAP	CF8M/ CF8	1

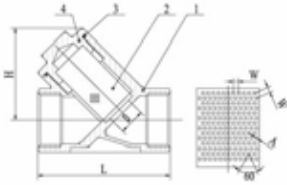
**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 316 SS MISCELLANEOUS VALVES

## VALVES

### #316 SS Y STRAINER

- Investment Castings for Body
- Pressure Rating: 800PSI (PN40)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



- 40 Mesh screen

Part	Material	QTY
1 BODY	CF8M	1
2 SCREEN	SS316	1
3 JOINT GASKET	PTFE	1
4 BONNET	CF8M	1

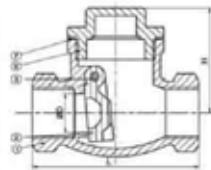
PART #	SIZE	D	L	H	W	ØA	LBS
949521	1/4"	.38"	2.53	51	1.69	1	0.44
949522	3/8"	.48"	2.53	51	1.69	1	0.38
949523	1/2"	.59"	2.53	51	1.76	1	0.46
949524	3/4"	.79"	3.12	60	2.07	1	0.69
949525	1"	.98"	3.57	72	2.67	1	1.27
949526	1-1/4"	1.26"	4.17	77	2.9	1	1.74
949527	1-1/2"	1.57"	4.71	87	3.23	1	2.38
949528	2"	1.96"	5.49	102	3.88	1	3.57

### 316 SS SWING CHECK VALVE

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



Part	Material	QTY
1 BODY	CF8M	1
2 DISC	CF8M	1
3 PIPE PLUG	CF8	1
4 SCREW	CF8	1
5 SCREW GASKET	PTFE	1
6 CAP	CF8M	1
7 CAP GASKET	PTFE	1



PART #	SIZE	D	L	W	LBS
949353	1/2"	.59"	2.45	1.66	0.53
949354	3/4"	.79"	2.92	1.82	0.73
949355	1"	.98"	3.41	2.06	1.2
949356	1-1/4"	1.26"	3.93	2.32	1.79
949357	1-1/2"	1.57"	4.54	2.54	2.18
949358	2"	1.96"	5.3	2.78	3.03

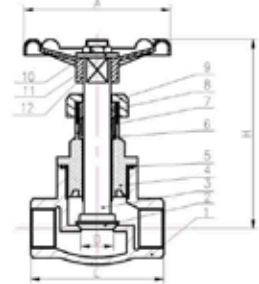
CF8 = 304SS

### 316 SS GLOBE VALVES

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



Part	Material	QTY
1 BODY	CF8M	1
2 DISC	CF8M	1
3 STEM	304SS	1
4 CAP	CF8M	1
5 SEAL	PTFE	1
6 GASKET	304SS	1
7 PACKING	PTFE	1
8 GASKET	CF8	1
9 GLAND	304SS	1
10 NUT	304SS	1
11 SPRING WASHER	CF8	1
12 HANDLE WHEEL	Steel	1



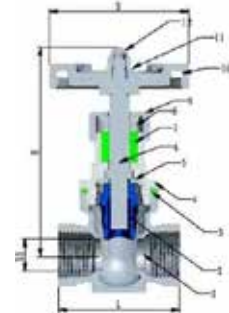
PART #	SIZE	L	LBS
949303	1/2	2.64	0.89
949304	3/4	3.19	1.3
949305	1	3.46	1.72
949306	1-1/4	3.81	2.33
949307	1-1/2	4.25	3.11
949308	2	5.1	4.38

### 316 SS GATE VALVES

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



Part	Material	QTY
1 BODY	CF8M	1
2 DISC	CF8M	1
3 SEAL	CF8M	1
4 CAP	CF8M	1
5 SEAL	PTFE	1
6 STEM	304SS	1
7 SEAL	PTFE	1
8 GLAND	304SS	1
9 NUT	304SS	1
HANDLE WHEEL	Steel	1



PART #	SIZE	L	D	D1	H	LBS
949253	1/2	2.07	2.54	0.55	3.37	0.78
949254	3/4	2.28	2.89	0.74	4.03	0.99
949255	1	2.42	2.89	0.95	4.46	1.25
949256	1-1/4	2.79	3.06	1.18	4.86	1.76
949257	1-1/2	2.92	3.79	1.49	5.53	2.59
949258	2	3.3	4.17	1.85	6.12	3.54

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# CARBON STEEL BALL VALVES

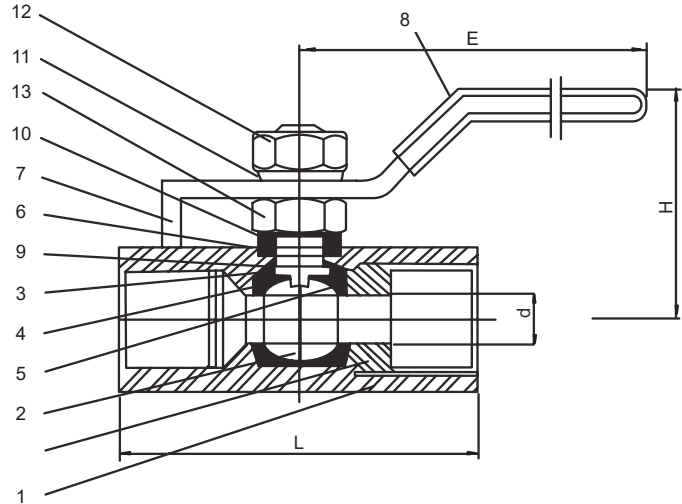
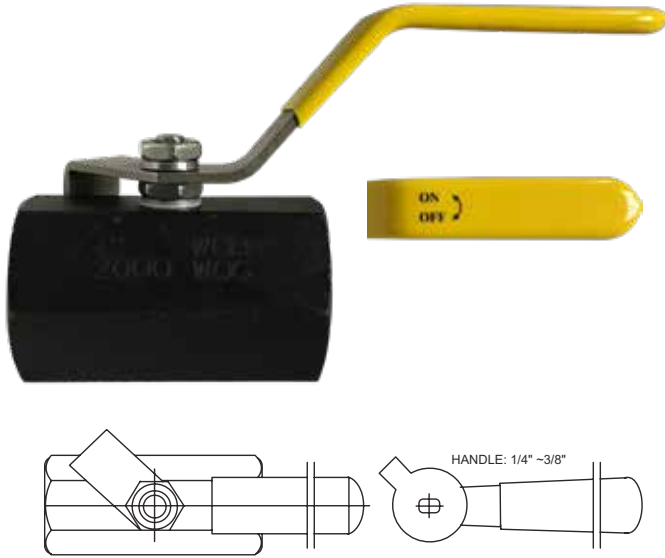
## VALVES

### STANDARD PORT CARBON STEEL BALL VALVE

- For chemical and industrial applications.
- Blow-out proof stem design.
- 100% air tested under water, at 100 psi, open and closed positions.
- Made in China
- Generic handles

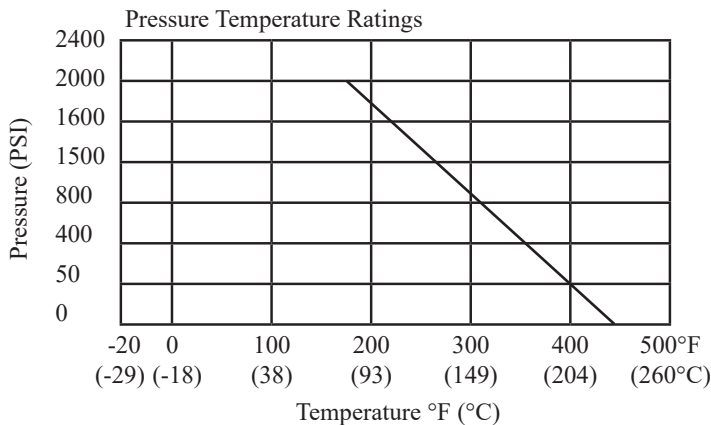
#### SPECIFICATIONS

- Working Pressure: 1/4" ~ 1" 2000 psi WOG, 1-1/4" ~ 2" 1500 psi WOG,
- Temperature Range: -60° to 450°F
- End types: Threaded
- 1 piece ball valve
- Reinforced PTFE seat



#### 2000 PSI STANDARD PORT

PART #	SIZE	D	H	E	L	WTG	BOX/ CASE	
949121	1/4	.20	1.38	2.95	1.71	0.25	24/96	----
949122	3/8	.28	1.30	3.27	1.87	0.32	100/200	----
949123	1/2	.36	2.36	4.53	2.20	0.67	50/100	----
949124	3/4	.49	2.72	4.53	2.58	1.06	50/100	----
949125	1	.59	2.95	5.00	3.19	1.17	25/50	----
949126	1-1/4	.78	3.07	5.29	3.94	3.15	15/30	----
949127	1-1/2	0.98	3.39	5.29	3.94	2.15	15/30	----
949128	2	1.26	3.86	5.29	4.49	6.21	10/20	----



Item	Parts	Material
1	Body	ASTM A216 WCB
2	Ball	ASTM A351 CF8
3	Stem	304
4	Ball Seat	PTFE
5	Cap Seal	PTFE
6	Packing	PTFE
7	Handle	SS304
8	Handle Sleeve	Vinyl Grip
9	Thrust Washer	PTFE
10	Gland	SS304
11	Washer	SS304
12	Handle Nut	SS304
13	Stem Nut	SS304

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# CARBON STEEL FULL PORT BALL VALVES

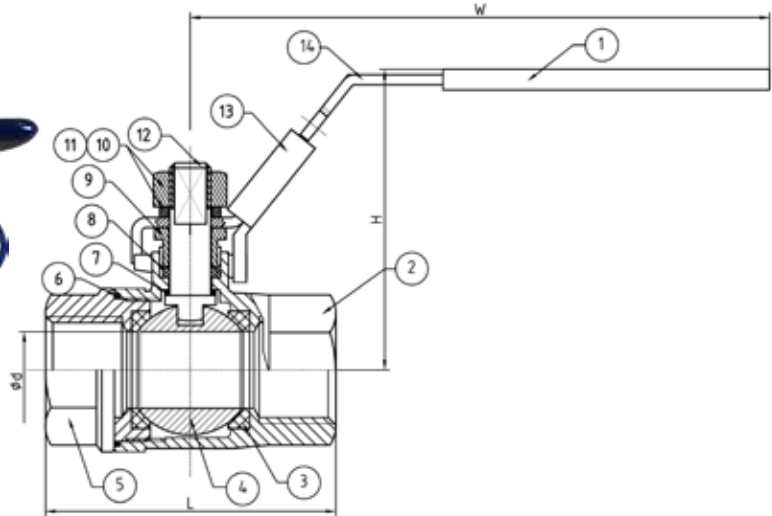
VALVES

## 2000 PSI CARBON STEEL 2PC FULL PORT BALL VALVE

• 2 PIECE

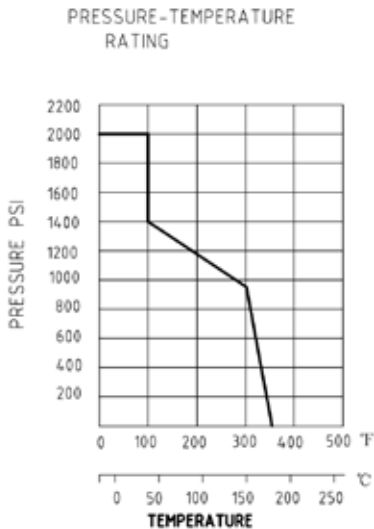
### SPECIFICATIONS

- Working Pressure: 2000 PSI (138 Bar)
- Temperature Range: -10° C-150° C
- Suitable medium: WOG
- Threaded End conforms to ANSI B1.20.1
- Made in China
- Generic handle



### 2000 PSI FULL PORT

PART #	SIZE	D	L	H	W	WTG	BOX/ CASE	
949111	1/4	0.36	2.13	2.13	4.33	0.59	70	----
949112	3/8	0.50	2.13	2.17	4.33	0.59	70	----
949113	1/2	0.59	2.24	2.28	4.33	0.75	60	----
949114	3/4	0.79	2.76	2.40	4.33	1.17	50	----
949115	1	0.98	3.25	3.03	5.04	1.88	30	----
949116	1-1/4	1.26	3.58	3.19	5.04	2.45	20	----
949117	1-1/2	1.50	4.06	3.54	6.10	4.06	20	----
949118	2	1.97	4.90	4.25	6.10	2.43	7	----



Item	Parts	Material
1	Handle cover	Plastic
2	Body	CF8M
3	Ball seat	PTFE
4	Ball	CF8M
5	Cap	CF8M
6	Joint gasket	PTFE
7	Thrust washer	PTFE
8	Stem packing	PTFE
9	Gland nut	304
10	Spring washer	304
11	Stem nut	304
12	Stem	316
13	Lock device	304
14	Handle	304

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# HIGH PRESSURE FULL PORT 2-WAY VALVES

## VALVES

### FULL PORT Two-Way



BKH

PART #	THREAD	WORKING PRESSURE	
GE214NPT	1/4" NPT	7250 PSI	----
GE238NPT	3/8" NPT	7250 PSI	----
GE212NPT	1/2" NPT	7250 PSI	----
GE234NPT	3/4" NPT	5800 PSI	----
GE21NPT	1" NPT	5075 PSI	----
GE2114TNPT*	1-1/4" NPT	5000 PSI	----
GE2112TNPT*	1-1/2" NPT	5000 PSI	----

PART #	THREAD	WORKING PRESSURE	
GE204SAE	7/16-20 UNF	7250 PSI	----
GE206SAE	9/16-18 UNF	7250 PSI	----
GE208SAE	3/4-16 UNF	7250 PSI	----
GE212SAE	1-1/16-12 UNF	5800 PSI	----
GE216SAE	1-5/16-12 UNF	5000 PSI	----
GB220TSAE+	1-5/8-12 UNF	5000 PSI	----
GB224TSAE+	1-7/8-12 UNF	5000 PSI	----

\* Reduced Port  
 + 'L' flow pattern  
 Temp Rating = -22° - 212°F

**Construction:** Steel Body, Ball, Stem  
 Zinc Chromate Plate  
 Buna "O" Rings (Viton on request)  
 Delrin Ball Seats

### FULL PORT Three-Way



BK3

PART #	THREAD	WORKING PRESSURE	
GE3L14NPT	1/4" NPT	5880 PSI	----
GE3L38NPT	3/8" NPT	5880 PSI	----
GE3L12NPT	1/2" NPT	5145 PSI	----
GE3L34NPT	3/4" NPT	5145 PSI	----
GE3L1NPT	1" NPT	5145 PSI	----
GE3L114TNPT	1 1/4" NPT	4500 PSI	----
GE3L112TNPT	1 1/2" NPT	4500 PSI	----

PART #	THREAD	WORKING PRESSURE	
GE3L04SAE	7/16-20 UNF	5880 PSI	----
GE3L06SAE	9/16-18 UNF	5880 PSI	----
GE3L08SAE	3/4-16 UNF	5145 PSI	----
GE3L12SAE	1-1/16-12 UNF	5145 PSI	----
GE3L16SAE	1-5/16-12 UNF	5145 PSI	----
GB3L20TSAE+	1-5/8-12 UNF	4500 PSI	----
GB3L24TSAE+	1-7/8-12 UNF	4500 PSI	----

+ 'L' flow pattern  
 Temp Rating = -22° - 212°F

**Construction:** Steel Body, Ball, Stem  
 Zinc Chromate Plate  
 Buna "O" Rings (Viton on request)  
 Delrin Ball Seats

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

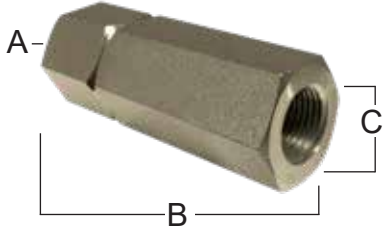


# HIGH PRESSURE CHECK VALVES

## VALVES

### CHECK VALVES - HARD SEAT CARBON STEEL CONSTRUCTION - 5lb Cracking Pressure

• w/ NPT threads



A ( NPT Female both ends )

PART #	A SIZE	B INCHES	C INCHES	RATED FLOW GPM	PSI	
100025	1/4 NPT	2.44	.87	6	5,000	----
100035	3/8 NPT	2.87	.95	10	5,000	----
100045	1/2 NPT	3.76	1.26	18	5,000	----
100065	3/4 NPT	4.30	1.50	30	5,000	----
100085	1 NPT	4.74	1.83	36	5,000	----
100105	1-1/4 NPT	5.56	2.40	50	3,000	----
100125	1-1/2 NPT	5.56	2.56	60	3,000	----

### CHECK VALVES - HARD SEAT CARBON STEEL CONSTRUCTION - 65lb Cracking Pressure



PART #	A SIZE	B INCHES	C INCHES	RATED FLOW GPM	PSI	
1000265	1/4NPT	2.45	.87	6	5,000	----
1000365	3/8NPT	2.91	.94	10	5,000	----
1000465	1/2NPT	3.74	1.18	18	5,000	----
1000665	3/4NPT	4.29	1.26	30	5,000	----
1000865	1NPT	5.00	1.81	36	5,000	----
1001065	1-1/4NPT	5.20	2.41	50	3,000	----
1001265	1-1/2NPT	5.20	2.56	60	3,000	----

### CHECK VALVES - 5lb Cracking Pressure

• w/ SAE threads



PART #	A SIZE	B INCHES	C INCHES	RATED FLOW GPM	PSI	
100145	7/16-20 SAE	2.56	.87	6	5,000	----
100165	9/16-18 SAE	2.91	.94	10	5,000	----
100185	3/4-16 SAE	3.74	1.18	18	5,000	----
1001125	1-1/6-12 SAE	4.29	1.50	30	3,000	----
1001165	1-5/16-12 SAE	5.00	1.81	36	3,000	----
1001205	1-5/8-12 SAE	5.20	2.41	50	3,000	----
1001245	1-7/8-12 SAE	5.20	2.56	60	3,000	----

### CHECK VALVES - 65lb Cracking Pressure

• w/ SAE threads



PART #	A SIZE	B INCHES	C INCHES	RATED FLOW GPM	PSI	
1001465	7/16-20 SAE	2.56	.87	6	5,000	----
1001665	9/16-18 SAE	2.91	.94	10	5,000	----
1001865	3/4-16 SAE	3.74	1.18	18	5,000	----
10011265	1-1/6-12 SAE	4.29	1.50	30	3,000	----
10011665	1-5/16-12 SAE	5.00	1.81	36	3,000	----
10012065	1-5/8-12 SAE	5.20	2.41	50	3,000	----
10012465	1-7/8-12 SAE	5.20	2.56	60	3,000	----

Rated Pressure: Sizes 2 thru 8 - 5000 psi / Sizes 10 thru 24 - 3000 psi

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**PVC VALVES**

## VALVES

- Quarter turn **WHITE PVC BALL VALVES**
- Solvent ends comply with ASTM D2466
- Designed for use in residential, commercial & industrial system as well as waste water, chemical, agricultural applications, marine, food processing, swimming pools.
- Corrosion resistant
- EPDM seal      • FULL PORT      • EPDM O-ring
- Fits both Sch. 40 & 80 pipe
- Rated for 150 PSI at 73°F      • Threaded ends comply with ANSI B1.20.1

**MOLDED IN PLACE - WHITE PIPE THREADS**

PART#	SIZE	CASE	
940284	1/2"	100	----
940285	3/4"	100	----
940286	1"	100	----
940287	1-1/4"	100	----
940288	1-1/2"	48	----
940289	2"	24	----
940291	3"	12	----
940292	4"	6	----

**WHITE SOCKET - SLIP X SLIP**

PART #	SIZE	CASE	
940294	1/2"	100	----
940295	3/4"	100	----
940296	1"	100	----
940297	1-1/4"	100	----
940298	1-1/2"	48	----
940299	2"	24	----
940300	2-1/2"	12	----
940301	3"	12	----
940302	4"	6	----

I CAN'T CHANGE THE DIRECTION OF THE WIND, BUT I CAN ADJUST MY SAILS TO ALWAYS REACH MY DESTINATION.

- JIMMY DEAN

**GREY PVC BALL VALVES****FEATURES**

- Sizes range from 1/2" to 4"
- Excellent flow characteristics
- Leak-tight shut-off
- EPPM O-Ring
- SCH 80
- Test pressure: 225 psi @ 73°F
- Working Pressure: 150 psi @ 73°F

**FIP X FIP THREADED BALL VALVE**

PART #	SIZE	CASE	
899000	1/2"	100	----
899001	3/4"	100	----
899002	1"	100	----
899003	1-1/4"	100	----
899004	1-1/2"	48	----
899005	2"	24	----

**SLIP X SLIP BALL VALVE**

PART #	SIZE	CASE	
899050	1/2"	100	----
899051	3/4"	100	----
899052	1"	100	----
899053	1-1/4"	100	----
899054	1-1/2"	48	----
899055	2"	24	----

**CPVC BALL VALVE**

PART #	SIZE	
940281	1/2"	----
940282	3/4"	----

**WARNING:** This product can expose you to chemicals, including Chloroethane, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PLASTIC VALVES

## VALVES

### INLINE PLASTIC SPRING CHECK VALVE

Socket x Socket

- 200 PSI working pressure @ 77°F .5 PSI to open.



PART#	SIZE	
940325	1/2"	----
940326	3/4"	----
940327	1"	----
940328	1-1/4"	----
940329	1-1/2"	----
940330	2"	----

### INLINE PLASTIC SPRING CHECK VALVE FEMALE THREADED ENDS

- 200 PSI working pressure @ 77°F .5 PSI to open.



PART#	SIZE	
940331	1/2"	----
940332	3/4"	----
940333	1"	----
940334	1-1/4"	----
940335	1-1/2"	----
940336	2"	----

### PLASTIC DRUM FAUCETS

- Pipe threads to ANSI B1.20.1
- Hose threads to ANSI B

The FLO-RITE faucet has been engineered to meet the demand for greater chemical resistance, using linear polyethylene for the stem.



#### "FLO-RITE" DRUM FAUCET

PART #	SIZE	
46277	3/4"	----

### DRUM & BARREL FAUCET VALVE

- Die cast body w/ nylon seat and steel spring.
- For use with all petroleum products except trichlorethylene.

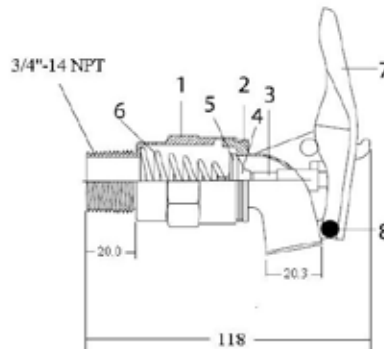


G261N

Not suitable for potable water

#### SELF-CLOSING DRUM & BARREL FAUCET

PART #	SIZE	
46270	3/4"	----



Part #	Part Name	Material
1	Body	Zinc
2	Bonnet	Zinc
3	Stem	Steel
4	Disc	Plastic
5	Seal	Rubber
6	Spring	Zinc plated steel
7	Handle	Aluminum
8	Rivet	Aluminum

**WARNING:** This product can expose you to chemicals, including Chloroethane, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**BUTTERFLY VALVES**  
VALVES

**DUCTILE IRON VALVES  
AND ACCESSORIES**

WAFER STYLE - LEVER OPERATED



NICKLE PLATED DUCTILE IRON DISC & SS DISC

WAFER STYLE GEAR OPERATED



NICKLE PLATED DUCTILE IRON DISC & SS DISC

BUTTERFLY ACCESSORIES



WAFER STYLE DOUBLE DOOR CHECK VALVE



AWWA C508 OUTSIDE LEVER



AND WEIGHT CHECK VALVES

UL/FM FLANGED SWING CHECK VALVE



SWING CHECK FLANGED

AWWA C515-15 GATE VALVES



FLANGED OS & Y RESILIENT WEDGE GATE VALVE



NRS RESILIENT WEDGE GATE VALVES, FLANGED, MECHANICAL JOINT & FLANGE BY MECHANICAL JOINT

DUCTILE IRON THREADED FLAT FACED COMPANION FLANGES



LF WATER METER FLANGES, FLANGE KITS AND LF METER COUPLINGS





# BUTTERFLY VALVES - WAFER

VALVES

## LEVER - WAFER

Small in size and light in weight, easy to install. It can be mounted wherever needed, quick 90° on-off operation. Disc has two-way bearing, perfect seal without leakage under the pressure test. Flow curve tending to straight-line. Strong wash and brush resistance and can fit to bad working condition. Center plate structure, small torque of open and close. Disc & stem are fastened by pin, more stable.



STANDARD:

- 1.DESIGN CODE :AP1609 Class A
- 2.FACE TO FACE : AP1609
- 3.END STANDARD:ANSI B16.5 125LB/150LB
- 4.INSPECTION & TEST:API 598

### TOP FLANGE DIMENSIONS

SIZE	4- d2
1.5"-3"	4-0.276
4"-6"	4-0.39
8"-14"	4-0.47

PART#	DUCTILE IRON DISC/ BUNA SEAT/ LEVER	CASE	WEIGHT	
9650L2	2"	200	7.3	----
9650L2.5	2-1/2"	190	8.4	----
9650L3	3"	180	9.8	----
9650L4	4"	150	12.1	----
9650L5	5"	110	16.5	----
9650L6	6"	90	16.9	----
9650L8	8"	50	30.3	----
9650L10	10"	35	44.5	----
9650L12	12"	24	51.6	----

### SS DISC/ EPDM SEAT/ LEVER

PART#	SIZE	
9650L2SE	2"	----
9650L3SE	3"	----
9650L4SE	4"	----
9650L5SE	5"	----
9650L6SE	6"	----
9650L8SE	8"	----
9650L10SE	10"	----
9650L12SE	12"	----

## GEAR - WAFER



STANDARD:

- 1.DESIGN CODE :AP1609 Class A
- 2.FACE TO FACE : AP1609
- 3.END STANDARD:ANSI B16.5 125LB/150LB
- 4.INSPECTION & TEST:API 598



### TOP FLANGE DIMENSIONS

SIZE	ISO5211	K	E	4- D2
1.5"-3"	F05	2.56	1.97	4-0.276
4"-6"	F07	3.54	2.76	4-0.39
8"-14"	F10	4.92	4.02	4-0.47

PART#	WAFER/ DUCTILE IRON DISC/ BUNA SEAT/ GEAR	CASE	WEIGHT	
9650G2	2"	200	7.3	----
9650G2.5	2-1/2"	190	8.4	----
9650G3	3"	180	9.8	----
9650G4	4"	150	12.1	----
9650G6	6"	90	16.9	----
9650G8	8"	50	30.3	----
9650G10	10"	35	44.5	----
9650G12	12"	24	51.6	----

### WAFER/ SS DISC/ EPDM SEAT/ GEAR

PART#	SIZE	
9650G2SE	2"	----
9650G2.5SE	2-1/2"	----
9650G3SE	3"	----
9650G4SE	4"	----
9650G6SE	6"	----
9650G8SE	8"	----
9650G10SE	10"	----
9650G12SE	12"	----

**BUTTERFLY VALVES - LUG**

## VALVES

**LEVER - LUG**

Small in size and light in weight, easy to install, can be mounted wherever needed. Lug type butterfly valve can be used at the end of the pipeline. Lug type butterfly valve has threaded metal inserts installed in the valve's bolt holes. Inserts are threaded on both ends, which allows this lug style valve to be installed into a system using two sets of bolts and no nuts for each hole. Valve is installed between two flanges using a separate set of bolts for each side of the flange. This setup permits either side of the piping system to be disconnected without disturbing the other side.



PART#	DUCTILE IRON DISC/ BUNA SEAT/ LEVER	CASE	WEIGHT	
9660L2	2"	200	7.3	----
9660L2.5	2-1/2"	190	8.4	----
9660L3	3"	180	9.8	----
9660L4	4"	150	12.1	----
9660L5	5"	110	16.5	----
9660L6	6"	90	16.9	----
9660L8	8"	50	30.3	----
9660L10	10"	35	44.5	----
9660L12	12"	24	51.6	----

**SS DISC/ EPDM SEAT/  
LEVER**

PART#	SIZE	
9660L2SE	2"	----
9660L3SE	3"	----
9660L4SE	4"	----
9660L5SE	5"	----
9660L6SE	6"	----
9660L8SE	8"	----
9660L10SE	10"	----
9660L12SE	12"	----

**GEAR - LUG**

PART#	DUCTILE IRON DISC/ BUNA SEAT/ GEAR	CASE	WEIGHT	
9660G2	2"	200	7.3	----
9660G2.5	2-1/2"	190	8.4	----
9660G3	3"	180	9.8	----
9660G4	4"	150	12.1	----
9660G6	6"	90	16.9	----
9660G8	8"	50	30.3	----
9660G10	10"	35	44.5	----
9660G12	12"	24	51.6	----

**SS DISC/ EPDM SEAT/  
GEAR**

PART#	SIZE	
9660G2SE	2"	----
9660G2.5SE	2-1/2"	----
9660G3SE	3"	----
9660G4SE	4"	----
9660G6SE	6"	----
9660G8SE	8"	----
9660G10SE	10"	----
9660G12SE	12"	----

# BUTTERFLY ACCESSORIES

## VALVES

### STEM EXTENSIONS



- FOR BOLTS AND NUTS
- BLACK COLOR

PART#	FOR VALVE SIZES ""	LENGTH	
9650EX2324	2-3	24 LONG	----
9650EX2336	2-3	36 LONG	----
9650EX2348	2-3	48 LONG	----
9650EX2360	2-3	60 LONG	----
9650EX2372	2-3	72 LONG	----
9650EX4624	4-6	24 LONG	----
9650EX4636	4-6	36 LONG	----
9650EX4648	4-6	48 LONG	----
9650EX4660	4-6	60 LONG	----
9650EX4672	4-6	72 LONG	----
9650EX1224	8-12	24 LONG	----
9650EX1236	8-12	36 LONG	----
9650EX1248	8-12	48 LONG	----
9650EX1260	8-12	60 LONG	----
9650EX1272	8-12	72 LONG	----

### LEVER REPLACEMENT



PART#	REPLACEMENT LEVER HANDLE FOR	
9650L23	2-3 9650BFV	----
9650L46	4-6 9650 BFV	----
9650L812	8-10 9650 B	----
9650L120	12 9650 BFV	----

### GEAR WHEEL HANDLE



PART#	REPLACEMENT WHEEL HANDLE FOR	
9650WH23	2-3" 9650 BFV	----
9650WH46	4-6" 9650 BFV	----
9650WH812	8-12" BFV	----

### ROLL PIN



PART#	REPLACEMENT ROLL PIN FOR	
9650RP23	2-3 9650 BFV	----
9650RP46	4-6 9650 BFV	----
9650RP12	8-12 9650 BFV	----

### INDEX PLATE



PART#	REPLACEMENT INDEX PLATE	
9650IP23	2-3" 9650BFV	----
9650IP46	4-6" 9650BFV	----
9650IP812	8-12" 9650 B	----

### GEAR REPLACEMENT

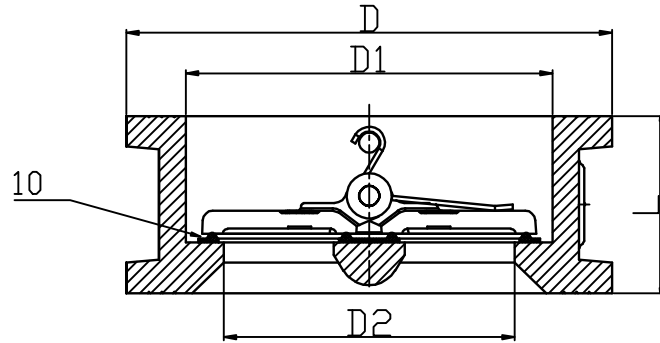


PART#	REPLACEMENT GEAR OPERATOR	
9650G23	2-3 9650 BFV	----
9650G46	4-6 9650 BFV	----
9650G812	8-10 9650BFV	----
9650G120	12 - 9650BFV	----

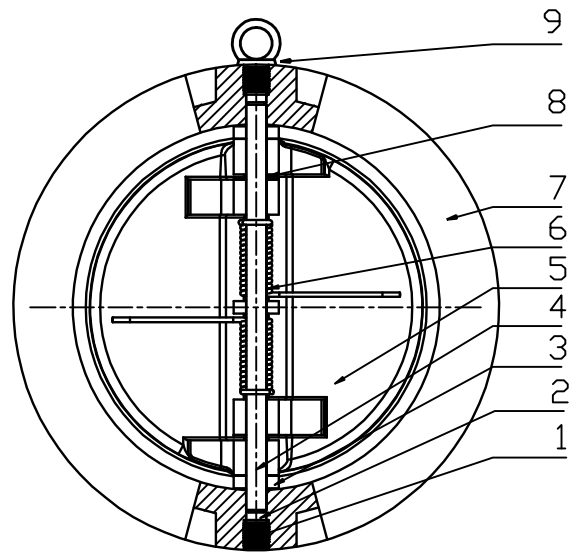
# DUCTILE IRON CHECK VALVES

## VALVES

### DOUBLE DOOR WAFER CHECK VALVE



Part	Part	MATERIAL
1	Countersunk Hex Head Screws	Carbon Steel ASTM A325
2	Stal Ring	EPDM
3	Gasket	PTFE
4	Shaft	Stainless Steel SS420
5	Disc	Aluminum Brance C954
6	Spring	Stainless Steel SS304
7	Body	Ductile Iron ASTM 65-45-12



#### MAIN DIMENSIONS

DN		Dimensions (mm)			
inch	mm	L	D	D1	D2
2	50	54	102	64	46
2 1/2'	65	54	121	78	60
3	80	57	134	94	70
4	100	64	162	117	84
5	125	70	192	145	115
6	150	76	218	170	134
8	200	95	273	224	184
10	250	108	335	265	220
12	300	143	407	310	260
14	350	184	442	360	302
16	400	191	511	410	350

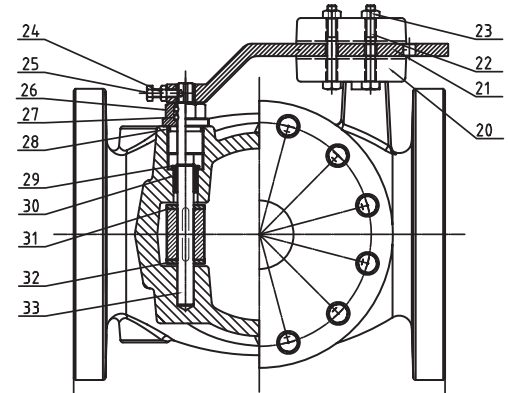
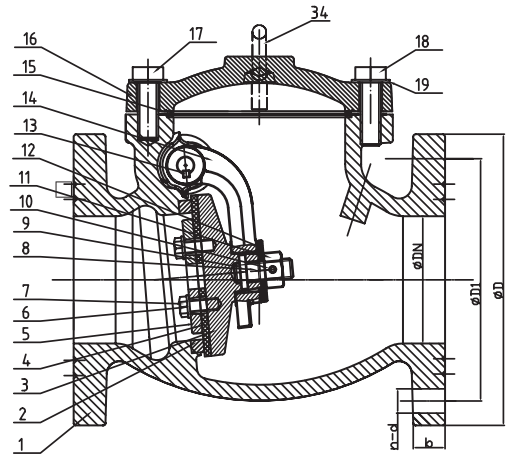
PART#	SIZE	CASE	WEIGHT	
963002	2	50	4	----
963025	2-1/2	40	5	----
963003	3	20	8	----
963004	4	20	13	----
963005	5	20	16	----
963006	6	10	20	----
963008	8	10	38	----
963010	10	10	38	----
963012	12	5	92	----
963014	14	4	121	----
963016	16	4	165	----

# DUCTILE IRON CHECK VALVES

VALVES

## CHECK VALVE W/OUTSIDE L/W

### AWWA C508 CHECK VALVE W/OUTSIDE L/W



Part	Part	MATERIAL
1	Valve Body	Ductile iron 65-45-12
2	Seat	ASTM B62 C83600
3	Disc	Ductile iron 65-45-12
4	Disc Seat Ring	NBR
5	Retainer Washer	Ductile iron 65-45-12
6	Washer	AISI 304
7	Bolt	AISI 304
8	Stud	ASTM B62 C83600
9	Roll Pin	AISI 304
10	Roll Pin	AISI 304
11	Nut	ASTM B62 C83600
12	Washer	ASTM B62 C83600
13	Flat Key	AISI 304
14	Clapper Arm	Ductile iron 65-45-12
15	O-Ring	NBR
16	Bonnet	Ductile iron 65-45-12
17	Bolt	AISI 316
18	Bolt	AISI 316
19	Washer	AISI 316
20	Weight	Ductite iron,65-45-12
21	Arm	Cast steel WCB
22	Bolt	AISI 316
23	Nut	AISI 316
24	Nut	AISI 316
25	Bolt	AISI 316
26	Seat Nut	ASTM B62 C83600
27	O-Ring	NBR
28	Gasket	PTFE
29	Circlip	Carbon steel
30	Shaft sleeve gland	ASTM B62 CB3600

MAIN DIMENSIONS (mm)							
inch	DN	L	D	D1	b	n-d	H
3"	80	241	200	152.5	19	4-19.1	173
4"	100	292	229	190.5	24	8-19.1	175.5
6"	150	356	285	241.5	25.5	8-22.2	237.5
8"	200	495	343	298.5	28.5	8-22.2	272.5
10"	250	622	406	362	30.5	12-25.4	326
12"	300	698	483	432	32	12-25.4	358



PART#	SIZE	CASE	WEIGHT	
96203LW	3	16	57	----
96204LW	4	12	84	----
96206LW	6	6	156	----
96208LW	8	4	294	----
962010LW	10	2	466	----
962012LW	12	2	627	----

## UL/FM FLANGED SWING CHECK VALVE

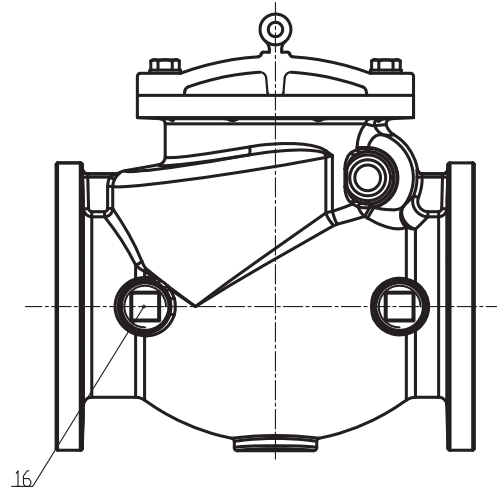
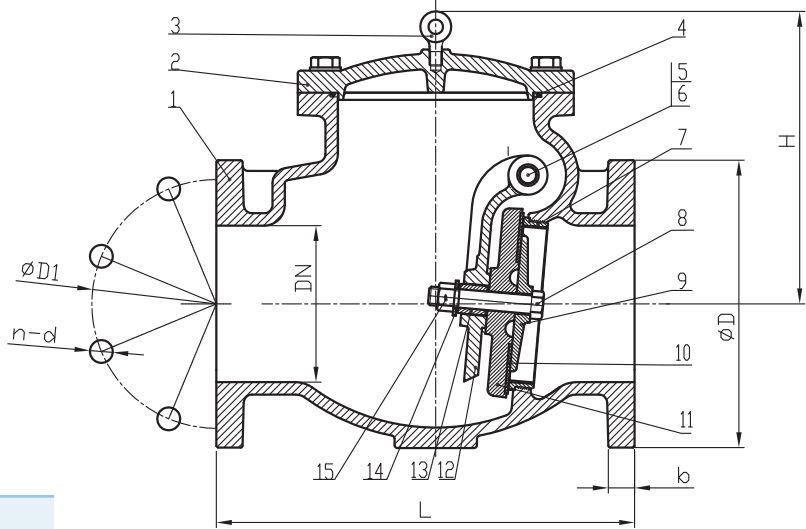
PART#	SIZE	CASE	WEIGHT	
96203UL	3	36	50	----
96204UL	4	36	77	----
96206UL	6	14	140	----
96208UL	8	4	266	----
962010UL	10	1	398	----
962012UL	12	1	533	----



# DUCTILE IRON CHECK VALVES

## VALVES

### AWWA C508 SWING CHECK VALVE FLANGED



Part	Part	MATERIAL
1	Valve Body	Ductile Iron 65-45-12
2	Bonnet	Ductile Iron 65-45-12
3	Sling Ring	Carbon Steel Zinc Plated
4	O Ring	NBR
5	Hinge Pin	Stainless Steel 304
6	Hinge bushing	Brass ASTM B36
7	Seat Ring	Bronze ASTM B62
8	Disc Seat Bolts	Stainless Steel 304
9	Retainer Washer	Bronze ASTM B62
10	Disc Seat Ring	EPDM
11	Disc	Ductile Iron 65-45-12
12	Ctapper Arm	Ductile Iron 65-45-12
13	Stud Bushing	Bronze ASTM B36
14	O Ring	NBR
15	Nuts	Stainless Steel 304
16	Plug	Tin bronze

#### MAIN DIMENSIONS

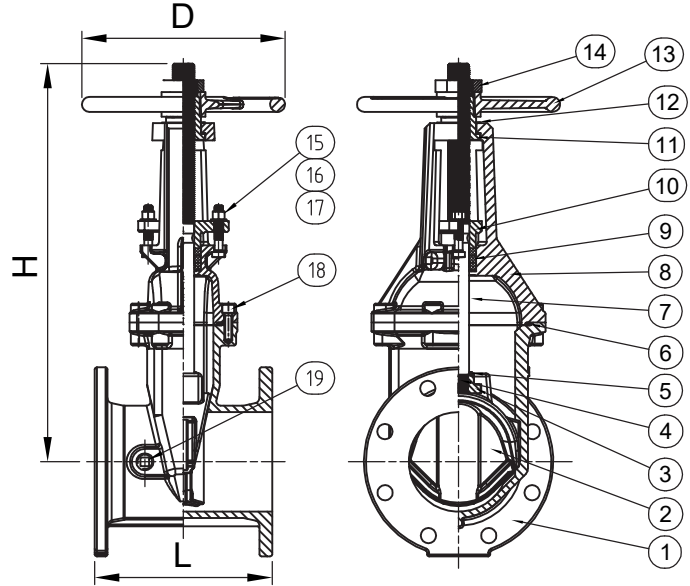
DN		PSI	Dimensions (mm)					
inch	mm		L	D	D1	b	n-d	H
3"	80	300	278	191	152.5	19	4-19.1	160
4"	100	300	330	229	190.5	24	8-19.1	218
6"	150	300	406	279	241.5	25.5	8-22.2	290
8"	200	300	495	343	298.5	28.5	8-22.2	330
10"	250	300	622	406	362	30.5	12-25.4	350
12"	300	300	660	483	432	32	12-25.4	376

PART#	SIZE	CASE	WEIGHT	
962003	3	16	57	----
962004	4	12	84	----
962006	6	6	156	----
962008	8	4	294	----
962010	10	2	466	----
962012	12	2	627	----

# DUCTILE IRON GATE VALVES

VALVES

## OS&Y RESILIENT SEATED GATE VALVE FLANGE ENDS, 300PSI



PART#	SIZE	CASE	WEIGHT	
9610F25	2-1/2"	25	46.2	----
9610F3	3"	16	62.7	----
9610F4	4"	16	74.8	----
9610F6	6"	9	103.9	----
9610F8	8"	6	190.9	----
9610F10	10"	2	291.8	----
9610F12	12"	2	409.8	----

### NO TAP

PART#	SIZE	CASE	WEIGHT	
9610NYCF25	2-1/2"	25	46.2	----
9610NYCF3	3"	32	62.7	----
9610NYCF4	4"	64	74.8	----
9610NYCF6	6"	54	103.9	----
9610NYCF8	8"	36	190.9	----
9610NYCF10	10"	12	291.8	----
9610NYCF12	12"	12	409.8	----

COMPLIES WITH NEW YORK AND CHICAGO REQUIREMENTS.

	DESCRIPTION	MATERIAL	ASTM SPEC.
1	Body	Ductile Iron	A536 65-45-12
2	Wedge	Ductile Iron, EPDM Encapsulated	A536 65-45-12
3	Wedge Nut	Stainless Steel	A276 Type 304SS
4	Pin	Stainless Steel	A276 Type 420SS
5	O-Ring	Rubber	D2000 NBR
6	Gasket	Rubber	D2000 NBR
7	Stem	Stainless Steel	A276 Type 304SS
8	Bonnet	Ductile Iron	A536 65-45-12
9	Packing	Graphite	
10	Gland	Ductile Iron	A536 65-45-12
11	Yoke Nut	Bronze	B148 C95200
12	Washer	Brass	
13	Handwheel	Ductile Iron	A536 65-45-12
14	Handwheel Nut	Ductile Iron	A536 65-45-12
15	Bolts	Stainless Steel	A276 Type 304SS
16	Nuts	Stainless Steel	A276 Type 316SS
17	Washers	Stainless Steel	A276 Type 304SS

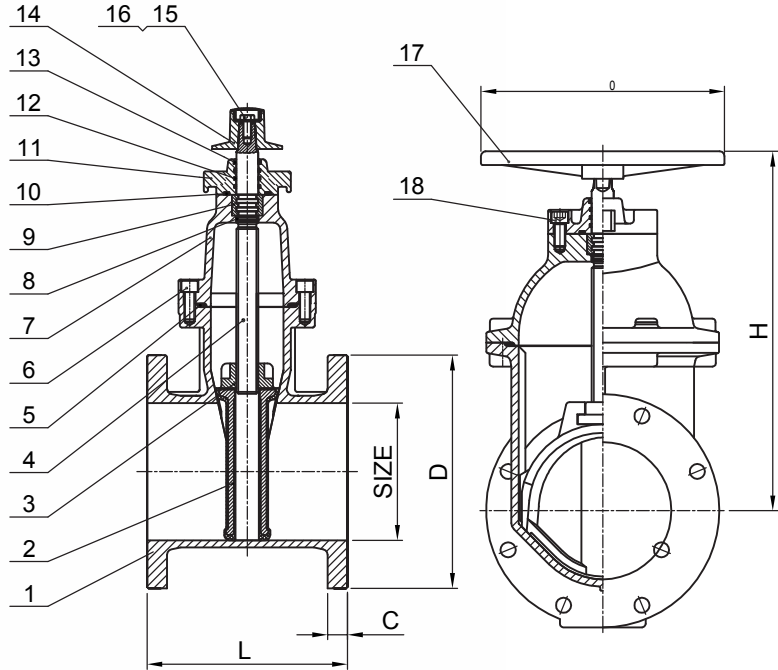
### MAIN DIMENSIONS

Size	2.5"	3"	4"	6"	8"	10"	12"
L	7-1/2"	8"	9"	10-1/2"	11-1/2"	13"	14"
H (Open)	16-5/8"	18-7/8"	21-5/8"	29-1/8"	36-5/8"	44-1/2"	52"
H (Close)	13-3/4"	15-3/4"	17-3/4"	23-1/4"	28-3/4"	34-3/4"	40-1/6"
D	7-1/4"	10"	10"	12"	14"	17-1/2"	17-1/2"

# DUCTILE IRON GATE VALVES

VALVES

## NRS RESILIENT SEATED GATE VALVE FLANGE ENDS, 300PSI



PART#	SIZE	CASE	WEIGHT	
9600FL25	2-1/2"	25	37.6	----
9600FL3	3"	16	54.2	----
9600FL4	4"	16	65.5	----
9600FL6	6"	9	107.5	----
9600FL8	8"	6	181.9	----
9600FL10	10"	2	297.4	----
9600FL12	12"	2	431.4	----

Item	Descript.	Material	ASTM Spec.
1	Body	Ductile Iron	A536 65-45-12
2	Wedge	Ductile Iron, EPDM Encapsulated	A536 65-45-12
3	Wedge Nut	Bronze	B148 C95200
4	Stem	Stainless Steel	A276 Type 304SS
5	Gasket	Rubber	D2000 NBR
6	Bolts	Stainless Steel	A276 Type 304SS
7	Bonnet	Ductile Iron	A536 65-45-12
8	O-Ring	Rubber	D2000 NBR
9	Thrust Collar	Bronze	B148 C95200
10	O-Ring	Rubber	D2000 NBR
11	Gland	Ductile Iron	A536 65-45-12
12	O-Ring	Rubber	D2000 NBR
13	Dust Ring	Rubber	D2000 NBR

CHANGE YOUR THOUGHTS AND YOU  
CHANGE YOUR WORLD.

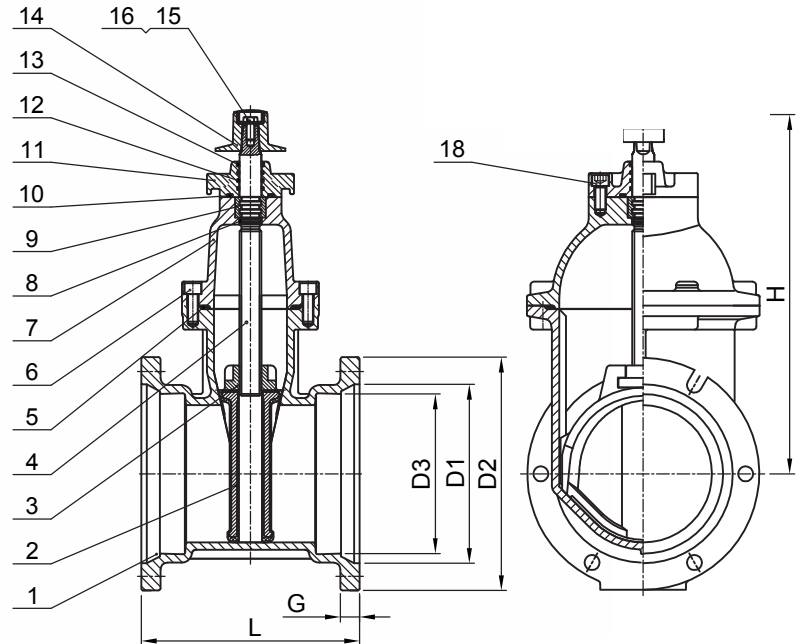
- NORMAN VINCENT PEALE

MAIN DIMENSIONS							
Size	2.5"	3"	4"	6"	8"	10"	12"
L	7-1/2"	8.0"	9.0"	10-1/2"	11-1/2"	13.0"	14.0"

# DUCTILE IRON GATE VALVES

VALVES

## AWWA C515-15 NRS RESILIENT SEATED GATE VALVE MJ × MJ ENDS, 300PSI



PART#	SIZE	WEIGHT	CASE	
9600MJ3	3"	54.2	16	----
9600MJ4	4"	65.5	16	----
9600MJ6	6"	107.5	9	----
9600MJ8	8"	181.9	6	----
9600MJ10	10"	297.4	2	----
9600MJ12	12"	431.4	2	----

\*STANDARD CONFIG IS OP NUT ONLY

Item	Descrip.	Material	ASTM Spec.
1	Body	Ductile Iron	A536 65-45-12
2	Wedge	Ductile Iron, EPDM Encapsulated	A536 65-45-12
3	Wedge Nut	Bronze	B148 C95200
4	Stem	Stainless Steel	A276 Type 304SS
5	Gasket	Rubber	D2000 NBR
6	Bolts	Stainless Steel	A276 Type 304SS
7	Bonnet	Ductile Iron	A536 65-45-12
8	O-Ring	Rubber	D2000 NBR
9	Thrust Collar	Bronze	B148 C95200
10	O-Ring	Rubber	D2000 NBR
11	Gland	Ductile Iron	A536 65-45-12
12	O-Ring	Rubber	D2000 NBR
13	Dust Ring	Rubber	D2000 NBR

If you always put limit on everything you do, physical or anything else. It will spread into your work and into your life. There are no limits. There are only plateaus, and you must not stay there, you must go beyond them.

- Bruce Lee

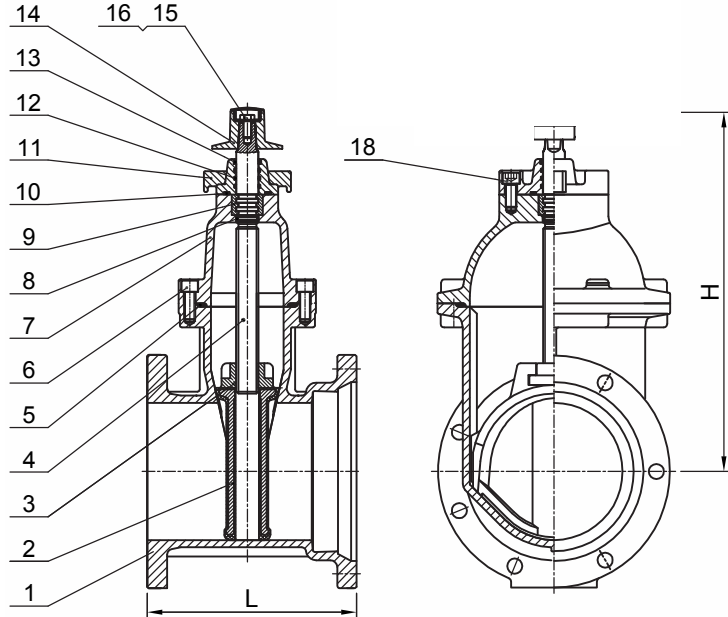
MAIN DIMENSIONS						
Size	3"	4"	6"	8"	10"	12"
L	11.5"	12.5"	14.8"	15.0"	13.0"	14.0"
H	16.4"	20.7"	24.5"	28.0"	24.5"	28.0"

# DUCTILE IRON GATE VALVES

VALVES

## NRS RESILIENT SEATED GATE VALVE

FL × MJ ENDS, 300PSI



PART#	SIZE	WEIGHT	CASE	
9600FJ3	3"	54.3	16	----
9600FJ4	4"	65.5	16	----
9600FJ6	6"	107.5	9	----
9600FJ8	8"	181.9	6	----
9600FJ10	10"	297.4	2	----
9600FJ12	12"	431.4	2	----

Item	Description	Material	ASTM Spec.
1	Body	Ductile Iron	A536 65-45-12
2	Wedge	Ductile Iron, EPDM Encapsulated	A536 65-45-12
3	Wedge Nut	Bronze	B148 C95200
4	Stem	Stainless Steel	A276 Type 304SS
5	Gasket	Rubber	D2000 NBR
6	Bolts	Stainless Steel	A276 Type 304SS
7	Bonnet	Ductile Iron	A536 65-45-12
8	O-Ring	Rubber	D2000 NBR
9	Thrust Collar	Bronze	B148 C95200
10	O-Ring	Rubber	D2000 NBR
11	Gland	Ductile Iron	A536 65-45-12
12	O-Ring	Rubber	D2000 NBR
13	Dust Ring	Rubber	D2000 NBR

\*STANDARD CONFIG IS OP NUT ONLY

### MAIN DIMENSIONS

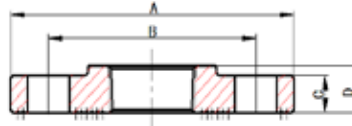
Size	3"	4"	6"	8"	10"	12"	10"	12"
L	8.8"	9.5"	11.0"	12.0"	14.0"	14.5"	13"	14"
H	11.0"	11.8"	16.4"	20.7"	24.5"	28.0"	44-1/2"	52"
D	10.0"	10.0"	12.0"	14.0"	16.0"	16.0"	34-3/4"	40-1/6"



# BLACK AND GALVANIZED COMPANION FLANGES

VALVES

## DUCTILE IRON THREADED COMPANION FLANGES



\*DIMENSIONS, FACED AND DRILLED IN ACCORDANCE WITH ASME B16.42/AWWA C110

\*COATING: AVAILABLE IN BLACK ELECTROPHORETIC COATING AND HOT DIP GALVANIZED

\*HOT-DIPPED GALVANIZED CONFORM TO ASTM A153; COMPANION FLANGE THREADS CONFORM TO ASME B1.20.1

\*APPLICATION: WATERWORKS, PUMP, IRRIGATION

### BLACK

PART # (BLACK)	DESCRIPTION (THREADED)	SIZE (INCH)	A (INCH)	B (INCH)	C (INCH)	D (INCH)	BOLT HOLE SIZE	NO. OF HOLES	UNIT WEIGHT (KG)	
108062	1 150	1"	4.25	3.12	0.44	0.75	φ0.625	4	0.8347	----
108063	1 1/4 150	1-1/4"	4.62	3.5	0.5	0.81	φ0.625	4	1.0797	----
108064	1 1/2 150	1-1/2"	5	3.88	0.56	0.88	φ0.625	4	1.3217	----
108065	2 150	2"	6	4.75	0.62	1	φ0.75	4	2.1457	----
108066	2 1/2 150	2-1/2"	7	5.5	0.69	1.12	φ0.75	4	3.4182	----
108067	3 150	3"	7.5	6	0.75	1.19	φ0.75	4	3.9051	----
108069	4 150	4"	9	7.5	0.94	1.31	φ0.75	8	5.5254	----
108071	6 150	6"	11	9.5	1	1.56	φ0.875	8	7.5328	----
108072	8 150	8"	13.5	11.75	1.12	1.75	φ0.875	8	13.0201	----
108073	10 150	10"	16	14.25	1.19	1.94	φ1	12	22.854	----
108074	12 150	12"	19	17	1.25	2.19	φ1	12	26.5451	----

### GALVANIZED

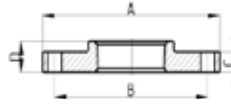
108025	2 150	2"	6	4.75	0.62	1	φ0.75	4	2.1457	----
108026	2 1/2 150	2-1/2"	7	5.5	0.69	1.12	φ0.75	4	3.4182	----
108027	3 150	3"	7.5	6	0.75	1.19	φ0.75	4	3.9051	----
108028	4 150	4"	9	7.5	0.94	1.31	φ0.75	8	5.5254	----
108029	6 150	6"	11	9.5	1	1.56	φ0.875	8	7.5328	----

**BLACK AND GALVANIZED COMPANION FLANGES**

VALVES

**THREADED COMPANION FLANGE CLASS 125 PATTERN (BLACK & GALVANIZED)**

- \* DIMENSIONS, FACED AND DRILLED IN ACCORDANCE WITH ASME B16.42/AWWA C110
- \* COATING: AVAILABLE IN BLACK ELECTROPHORETIC COATING AND HOT DIP GALVANIZED
- \* HOT-DIPPED GALVANIZED CONFORM TO ASTM A153; COMPANION FLANGE THREADS CONFORM TO ASME B1.20.1
- \* APPLICATION: WATERWORKS, PUMP, IRRIGATION
- \* 150PSI

**BLACK**

PART #	DESCRIPTION (DI FLANGE)	SIZE (INCH)	A (INCH)	B (INCH)	C (INCH)	D (INCH)	BOLT HOLE SIZE	NO. OF HOLES	UNIT WEIGHT (KG)	
108075	2 1/2X7 1/2 (Pipe Size 2-1/2 x 3)	3" x 2"	7.50	6.00	0.75	1.19	φ0.75	4	4.3827	----
108076	1 1/2X9 (Pipe Size 1-1/2 x 4)	3" x 2-1/2"	7.50	6.00	0.75	1.19	φ0.75	4	4.2013	----
108077	2 X9 (Pipe Size 2 x 4)	4" x 1-1/2"	9.00	7.50	0.94	1.31	φ0.75	8	6.8352	----
108088	2 1/2X9 (Pipe Size 2-1/2 x 4)	4" x 2"	9.00	7.50	0.94	1.31	φ0.75	8	6.4168	----
108089	3 X9 (Pipe Size 3 x 4)	4" x 2-1/2"	9.00	7.50	0.94	1.31	φ0.75	8	6.3343	----
108090	2X10 (Pipe Size 2 x 5)	4" x 3"	9.00	7.50	0.94	1.31	φ0.75	8	6.081	----
108091	1 1/2 X11 (Pipe Size 1 1/2 x 6)	5" x 4"	10.00	8.50	0.94	1.44	φ0.875	8	6.8761	----
108094	2 1/2X11 (Pipe Size 2-1/2 x 6)	6" x 2"	11.00	9.50	1.00	1.56	φ0.875	8	10.6349	----
108095	4 X11 (Pipe Size 4 x 6)	6" x 3"	11.00	9.50	1.00	1.56	φ0.875	8	10.1831	----
108092	5 X11 (Pipe Size 5 x 6)	6" x 4"	11.00	9.50	1.00	1.56	φ0.875	8	9.4563	----
108096	5 X13 1/2 (Pipe Size 5 x 8)	8" x 4"	13.50	11.75	1.12	1.75	φ0.875	8	17.1296	----
108097	2 X16 R (Pipe Size 2 x 10)	8" x 6"	13.50	11.75	1.12	1.75	φ0.875	8	15.2184	----
108098	6 X16 150PSI R (Pipe Size 6 x 10)	8" x 2"	16.00	14.25	1.19	1.94	φ1	12	26.54	----

**GALVANIZED**

108031		2-1/2" x 2"								
108032		3" x 2"								
108033	1 1/2X9 (Pipe Size 1-1/2 x 4)	3" x 2-1/2"	7.50	6.00	0.75	1.19	φ0.75	4	4.2013	----
108034		4" x 2"								
108035	3 X9 (Pipe Size 3 x 4)	4" x 2-1/2"	9.00	7.50	0.94	1.31	φ0.75	8	6.3343	----
108036	2X10 (Pipe Size 2 x 5)	4" x 3"	9.00	7.50	0.94	1.31	φ0.75	8	6.081	----
108038	2 1/2X11 (Pipe Size 2-1/2 x 6)	6" x 2"	11.00	9.50	1.00	1.56	φ0.875	8	10.6349	----
108039	3 X11 (Pipe Size 3 x 6)	6" x 2-1/2"	11.00	9.50	1.00	1.56	φ0.875	8	10.5386	----
108037	5 X11 (Pipe Size 5 x 6)	6" x 4"	11.00	9.50	1.00	1.56	φ0.875	8	9.4563	----
108040	5 X13 1/2 (Pipe Size 5 x 8)	8" x 4"	13.50	11.75	1.12	1.75	φ0.875	8	17.1296	----
108041	2 X16 R (Pipe Size 2 x 10)	8" x 6"	13.50	11.75	1.12	1.75	φ0.875	8	15.2184	

# WATER METER FLANGES

VALVES

VALVES

## LEAD FREE OVAL WATER METER FLANGE OVAL



PART#	SIZE	CASE	
970207	1-1/2"	32	----
970208	2"	48	----

## LEAD FREE OVAL WATER METER KIT

W/ BOLT & NUT STAINLESS STEEL



NO	PART	MATERIALS	QTY	WATER CONTACT
1	BOLT	SS 304	4	N
2	FLANGE	BRASS LEAD FREE	2	Y
3	PACKING	RUBBER	2	Y

PART#	SIZE	CASE	
970227	1-1/2"	32	----
970228	2"	48	----

## LEAD FREE OVAL METER FLANGE KIT

W/ BOLT & NUT STAINLESS STEEL (NO LEAD)



NO	PART	MATERIALS	QTY	WATER CONTACT
1	BOLT	SS 304	2	N
2	FLANGE	BRASS LEAD FREE	1	Y
3	PACKING	RUBBER	1	Y
4	NUT	SS 304	2	N

PART#	SIZE	CASE	
970217	1-1/2"	12	----
970218	2"	10	----

## LEAD FREE BRASS METER COUPLING



PART#	SIZE	CASE	
970253	1/2"	100	----
970254	3/4"	100	----
970255	1"	80	----
970257	1-1/2"	24	----
970258	2"	24	----

# NIPPLES

NIPPLES AND FITTINGS

## NIPPLES & FITTINGS



### BRASS & BRONZE..... 240-269

Brass Nipples - Sch 40.....	242-247
C/P Brass Nipples.....	248
Bronze Fittings.....	249-258
Lead Free Bronze Fittings .....	249-258
C/P Fittings.....	259-260
USA LF Bronze Fittings .....	261-265
Extra Heavy USA LF Bronze Fittings	265-266
Bronze Cleanout Plugs .....	267
Bronze Drop Ear Elbows.....	267
Bronze Barbs for PL. Pipe .....	268
Steel Barbs for PL. Pipe .....	268
Lead Free Bronze Barbs for PL. Pipe.....	269
Stainless Steel Barbs for PL. Pipe.....	269
Stainless Steel Well Couplings .....	269
Stainless Steel Merchant Couplings .....	269
STAINLESS STEEL.....	270-283

Stainless Nipples.....	271-275
150# Cast SS Fittings .....	276-283

### BLACK & GALVANIZED .....

284-322	
Sch. 40 Welded Steel Nipples.....	284-292
Sch. 80 Seamless Steel nipple .....	293-298
Sch. XXS Seamless Steel Nipple .....	299
Groove Nipples.....	300-301
Merchant Couplings.....	302
API Line Couplings.....	303
Malleable Fittings.....	304-313
Steel Fittings.....	314-315
300# Malleable .....	316-317
Bull Plugs and Swages .....	318-319
Forged Steel Fanges .....	320-321
Hammer Visions .....	322
Copper Fittings.....	323-329

# BRASS NIPPLES



We hereby certify that to the best of our knowledge and belief the CDA 230 alloy seamless Red Brass Pipe from which our nipples are produced meet the requirements of ASTM Specifications B43 and is free of mercury contamination. The chemical analysis is 85% copper, 15% Zinc and conforms to federal Specifications WWN-351. Our brass nipples meet ANSI/ASTM B687-96 and MS51846 for standard brass nipples, and MS51872 for extra heavy brass nipples.

Threads: Nipples are threaded with American Standard taper pipe threads (NPT) in accordance with screw-thread standard for Federal Services Handbook H-58. ANSI B1.20.1

This product is certified by NSF to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above.

- ASTM B43
- ANSI B1.20.1, WW-N-351
- ANSI/ ASTM B687-96
- NSF-61 Approved
- MS51846 STD Brass Nipples
- RoHS compliant

**STANDARD RED BRASS 85%  
PIPE WITH THREADED ENDS SPECIFICATIONS:**

Pipe Size in Inches	Dimension in Inches			Allowable Pressure POUNDS PER SQUARE INCH				
	O.D.	I.D.	Wall Thickness	Standard Size (Inches)	@ 100° F	@ 200° F	@ 300° F	@ 400° F
1/8"	.405	.281	.062	1/8"	370	370	320	140
1/4"	.540	.376	.082	1/4"	870	870	760	330
3/8"	.675	.495	.090	3/8"	890	890	780	340
1/2"	.840	.626	.107	1/2"	900	900	790	340
3/4"	1.050	.822	.114	3/4"	810	810	710	310
1"	1.315	1.063	.126	1"	630	630	560	240
1-1/4"	1.660	1.368	.146	1-1/4"	690	690	610	260
1-1/2"	1.900	1.600	.150	1-1/2"	630	630	560	240
2"	2.375	2.063	.156	2"	540	540	480	210
2-1/2"	2.875	2.501	.187	2-1/2"	450	450	390	170
3"	3.500	3.062	.219	3"	510	510	450	190
3-1/2"	4.000	3.500	.250	3-1/2"	570	570	500	220
4"	4.500	4.000	.250	4"	510	510	440	190
4-1/2"	5.000	4.500	.250	5"	410	410	360	160
5"	5.563	5.063	.250	6"	340	340	300	130
6"	6.625	6.125	.250					

No-Lead 125LB seamless Threaded Red Brass Nipples - 2200

**LEAD FREE**





# SCH 40 SEAMLESS

NIPPLES AND FITTINGS

113RB



1/8" - 27



## 1/8" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40001	Close ( 3/4" )	25/400	0.02	----
40002	x 1-1/2"	25/400	0.03	----
40003	x 2"	25/400	0.04	----
40004	x 2-1/2"	25/400	0.05	----
40005	x 3"	25/400	0.06	----
40006	x 3-1/2"	25/400	0.07	----
40007	x 4"	25/400	0.08	----
40008	x 4-1/2"	25/400	0.10	----
40009	x 5"	25/400	0.11	----
40010	x 5-1/2"	25/400	0.12	----
40011	x 6"	25/400	0.13	----
40012	x 7"	25/400	0.15	----
40013	x 8"	25/400	0.17	----
40014	x 9"	25/400	0.19	----
40015	x 10"	25/400	0.21	----
40017	x 12"	25/400	0.25	----
40018	x 14"	1/1	0.29	----
40019	x 16"	1/1	0.34	----



1/4"-18



## 1/4" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40020	Close ( 7/8" )	25/400	0.03	----
40021	x 1-1/2"	25/400	0.05	----
40022	x 2"	25/400	0.07	----
40023	x 2-1/2"	25/400	0.09	----
40024	x 3"	25/400	0.11	----
40025	x 3-1/2"	25/400	0.13	----
40026	x 4"	25/400	0.14	----
40027	x 4-1/2"	25/400	0.16	----
40028	x 5"	25/400	0.18	----
40029	x 5-1/2"	25/400	0.20	----
40030	x 6"	25/400	0.22	----
40031	x 7"	25/200	0.25	----
40032	x 8"	25/200	0.29	----
40033	x 9"	25/200	0.33	----
40034	x 10"	25/200	0.36	----
40035	x 11"	25/200	0.40	----
40036	x 12"	25/200	0.43	----

See page 7 for Yellow Brass Nipples

# SCH 40 SEAMLESS

NIPPLES AND FITTINGS



**LEAD  
FREE**

3/8"-18

## 3/8" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40040	Close ( 1" )	25/400	0.05	----
40041	x 1-1/2"	25/400	0.08	----
40042	x 2"	25/400	0.10	----
40043	x 2-1/2"	25/400	0.13	----
40044	x 3"	25/400	0.16	----
40045	x 3-1/2"	25/400	0.18	----
40046	x 4"	25/400	0.21	----
40047	x 4-1/2"	25/300	0.23	----
40048	x 5"	25/300	0.26	----
40049	x 5-1/2"	25/300	0.29	----
40050	x 6"	25/300	0.31	----
40051	x 7"	25/200	0.36	----
40052	x 8"	25/150	0.42	----
40053	x 9"	25/150	0.47	----
40054	x 10"	25/100	0.52	----
40055	x 11"	25/100	0.57	----
40056	x 12"	25/100	0.62	----

113RB



**LEAD  
FREE**

1/2" - 14

## 1/2" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40060	Close ( 1-1/8" )	25/400	0.09	----
40061	x 1-1/2"	25/400	0.12	----
40062	x 2"	25/400	0.16	----
40063	x 2-1/2"	25/300	0.20	----
40064	x 3"	25/300	0.23	----
40065	x 3-1/2"	25/300	0.27	----
40066	x 4"	25/200	0.31	----
40067	x 4-1/2"	25/200	0.35	----
40068	x 5"	25/200	0.39	----
40069	x 5-1/2"	25/200	0.43	----
40070	x 6"	25/200	0.47	----
40071	x 7"	25/100	0.55	----
40072	x 8"	25/100	0.62	----
40073	x 9"	25/100	0.70	----
40074	x 10"	25/75	0.78	----
40075	x 11"	25/75	0.86	----
40076	x 12"	25/75	0.94	----

# SCH 40 SEAMLESS

NIPPLES AND FITTINGS



3/4" - 14

## 3/4" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40080	Close (1- 3/8" )	25/400	0.15	----
40081	x 1-1/2"	25/400	0.16	----
40082	x 2"	25/300	0.21	----
40083	x 2-1/2"	25/300	0.27	----
40084	x 3"	25/200	0.32	----
40085	x 3-1/2"	25/200	0.37	----
40086	x 4"	25/150	0.43	----
40087	x 4-1/2"	25/150	0.48	----
40088	x 5"	25/100	0.53	----
40089	x 5-1/2"	25/100	0.59	----
40090	x 6"	25/100	0.64	----
40091	x 7"	25/75	0.75	----
40092	x 8"	25/75	0.85	----
40093	x 9"	25/75	0.96	----
40094	x 10"	25/50	1.06	----
40095	x 11"	25/50	1.17	----
40096	x 12"	25/50	1.28	----
40097	x 18"	1/1	1.92	----
40098	x 24"	1/1	2.56	----
40099	x 36"	1/1	3.84	----

113RB



1" - 11 1/2

## 1" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40100	Close ( 1-1/2" )	25/200	0.23	----
40101	x 2"	25/200	0.30	----
40102	x 2-1/2"	25/150	0.38	----
40103	x 3"	25/150	0.45	----
40104	x 3-1/2"	25/100	0.53	----
40105	x 4"	25/100	0.60	----
40106	x 4-1/2"	25/100	0.68	----
40107	x 5"	25/75	0.75	----
40108	x 5-1/2"	25/75	0.83	----
40109	x 6"	25/50	0.94	----
40110	x 7"	25/50	1.05	----
40111	x 8"	25/50	1.20	----
40112	x 9"	25/50	1.35	----
40113	x 10"	25/50	1.50	----
40114	x 11"	25/50	1.65	----
40115	x 12"	20/40	1.80	----

# SCH 40 SEAMLESS

NIPPLES AND FITTINGS



**LEAD  
FREE**

1 1/4" - 11 1/2"

## 1-1/4" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40120	Close ( 1-5/8" )	25/100	0.36	----
40121	x 2"	25/100	0.44	----
40122	x 2-1/2"	25/100	0.56	----
40123	x 3"	25/100	0.67	----
40124	x 3-1/2"	25/100	0.78	----
40125	x 4"	25/50	0.89	----
40126	x 4-1/2"	25/50	1.00	----
40127	x 5"	25/50	1.11	----
40128	x 5-1/2"	25/50	1.22	----
40129	x 6"	25/50	1.33	----
40130	x 7"	25/50	1.56	----
40131	x 8"	25/50	1.78	----
40132	x 9"	25/50	2.00	----
40133	x 10"	25/50	2.22	----
40134	x 11"	25/50	2.45	----
40135	x 12"	25/50	2.67	----
40136	x 18"	1/1	4.00	----

113RB



**LEAD  
FREE**

1-1/2" - 11 1/2"

## 1-1/2" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40140	Close ( 1-3/4" )	25/100	0.46	----
40141	x 2"	25/100	0.53	----
40142	x 2-1/2"	25/50	0.66	----
40143	x 3"	25/50	0.79	----
40144	x 3-1/2"	25/50	0.93	----
40145	x 4"	25/50	1.06	----
40146	x 4-1/2"	25/50	1.19	----
40147	x 5"	20/40	1.32	----
40148	x 5-1/2"	20/40	1.46	----
40149	x 6"	20/40	1.59	----
40150	x 7"	20/40	1.85	----
40151	x 8"	20/40	2.12	----
40152	x 9"	20/40	2.38	----
40153	x 10"	20/40	2.65	----
40154	x 11"	1/40	2.91	----
40155	x 12"	1/15	3.18	----
40156	x 18"	1/1	4.77	----

# SCH 40 SEAMLESS

NIPPLES AND FITTINGS



LEAD FREE

2" - 11 1/2

## 2" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40160	Close ( 2" )	25/50	0.69	----
40161	x 2-1/2"	25/50	0.86	----
40162	x 3"	25/50	1.03	----
40163	x 3-1/2"	25/50	1.20	----
40164	x 4"	1/25	1.37	----
40165	x 4-1/2"	1/25	1.54	----
40166	x 5"	1/25	1.72	----
40167	x 5-1/2"	1/25	1.89	----
40168	x 6"	1/25	2.06	----
40169	x 7"	1/20	2.40	----
40170	x 8"	1/18	2.74	----
40171	x 9"	1/18	3.09	----
40172	x 10"	1/18	3.43	----
40173	x 11"	1/18	3.77	----
40174	x 12"	1/14	4.12	----
40175	x 18"	1/1	6.18	----
40176	x 24"	1/1	8.24	----
40178	x 36"	1/1	12.36	----
40179	x 48"	1/1	16.48	----

113RB



LEAD FREE

2 1/2" - 8

## 2-1/2" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40180	Close ( 2-1/2" )	1/36	1.26	----
40181	x 3"	1/36	1.51	----
40182	x 3-1/2"	1/30	1.76	----
40183	x 4"	1/30	2.02	----
40184	x 4-1/2"	1/30	2.27	----
40185	x 5"	1/20	2.52	----
40186	x 5-1/2"	1/20	2.77	----
40187	x 6"	1/20	3.03	----

We know what we are, but know not what we may be.

- William Shakespeare

See our Valve section for 2-1/2, 3 and 4" Valves



# SCH 40 SEAMLESS

NIPPLES AND FITTINGS



LEAD  
FREE

## 3" DIAMETER SCH 40 SEAMLESS

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
40200	Close ( 2-5/8" )	1/24	1.89	----
40201	x 3"	1/20	2.16	----
40202	x 3-1/2"	1/18	2.52	----
40203	x 4"	1/18	2.88	----
40204	x 4-1/2"	1/18	3.24	----
40205	x 5"	1/18	3.60	----
40206	x 5-1/2"	1/18	3.96	----
40207	x 6"	1/12	4.32	----
40209	x 8"	1/1	5.76	----
40213	x 12"	1/1		

113RB



LEAD  
FREE

## 4" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40220	Close ( 2-7/8 )	1/20	2.40	----
40221	x 3"	1/10	2.72	----
40222	x 3-1/2"	1/10	3.18	----
40223	x 4"	1/10	3.71	----
40224	x 4-1/2"	1/5	4.24	----
40225	x 5"	1/5	4.77	----
40226	x 5-1/2"	1/5	5.30	----
40234	x 6"	1/5	6.36	----



LEAD  
FREE

## 6" DIAMETER SCH 40 SEAMLESS

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
40254	Close	1/1	4.94	----
40256	x 4"	1/1	6.54	----
40259	x 4-1/2"	1/1	7.12	----
40260	x 5"	1/1	7.91	----
40261	x 6"	1/1	9.49	----

# CHROME PLATED

## NIPPLES AND FITTINGS

113CP



**LEAD FREE**

### 3/8" DIAMETER CHROME PLATED

Part #	Size	Box/Case	Approx. Wt. Lbs.	
41040	X Close	5/25	0.05	-----
41041	x 1-1/2"	5/25	0.08	-----
41042	x 2"	5/25	0.10	-----
41043	x 2-1/2"	5/25	0.13	-----
41044	x 3"	5/25	0.16	-----
41045	x 3-1/2"	5/25	0.18	-----
41046	x 4"	5/25	0.21	-----
41047	x 4-1/2"	5/25	0.23	-----
41048	x 5"	5/25	0.26	-----
41049	x 5-1/2"	5/25	0.29	-----
41050	x 6"	5/25	0.31	-----



**LEAD FREE**

### 1/2" DIAMETER CHROME PLATED

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
41060	X Close	5/25	0.09	----
41061	x 1-1/2"	5/25	0.12	----
41062	x 2"	5/25	0.16	----
41063	x 2-1/2"	5/25	0.20	----
41064	x 3"	5/25	0.23	----
41065	x 3-1/2"	5/25	0.27	----
41066	x 4"	5/25	0.31	----
41067	x 4-1/2"	5/25	0.35	----
41068	x 5"	5/25	0.39	----
41069	x 5-1/2"	5/25	0.43	----
41070	x 6"	5/25	0.47	----
41074	x 10"	1/1	0.78	----



**LEAD FREE**

81300-12

### 3/4" DIAMETER CHROME PLATED

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
41080	Close (1- 3/8" )	25/400	0.15	----
41081	x 1-1/2"	25/400	0.16	----
41082	x 2"	25/300	0.21	----
41083	x 2-1/2"	25/300	0.27	----
41084	x 3"	25/200	0.32	----
41085	x 3-1/2"	25/200	0.37	----
41086	x 4"	25/150	0.43	----
41087	x 4-1/2"	25/150	0.48	----
41088	x 5"	25/100	0.53	----
41089	x 5-1/2"	25/100	0.59	----
41090	x 6"	25/100	0.64	----



**LEAD FREE**

81300-16

### 1" DIAMETER CHROME PLATED

PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
41100	Close ( 1-1/2" )	25/200	0.23	----
41101	x 2"	25/200	0.30	----
41102	x 2-1/2"	25/150	0.38	----
41103	x 3"	25/150	0.45	----
41104	x 3-1/2"	25/100	0.53	----
41105	x 4"	25/100	0.60	----
41106	x 4-1/2"	25/100	0.68	----
41107	x 5"	25/75	0.75	----
41108	x 5-1/2"	25/75	0.83	----
41109	x 6"	25/50	0.94	----

**WARNING:** This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE FITTINGS

NIPPLES AND FITTINGS

## BRONZE FITTINGS



UL842, UL258, UL125,FM

**Class 125 (150) For steam, water, gas, oil and air service**  
Standard specifications

Materials - ASTM B62-93 (85,5,5,5) C83600

Dimensions - ANSI B 16.15

Threads - ANSI B2.1 or BA 21 and Fed. WW-P-460C, MSS-SP-106, ANSI/ASME B1.20.1

- UL/ FM Approved
- ISO 9001:2000
- Not Lead Free
- RoHS Compliant

Bronze threaded fittings are manufactured from smooth-cored castings, designed to provide full flow with minimum restriction. All threads are accurately machined and gauged to ensure a perfect fit with the pipe. All fittings are individually tested under water to ensure quality. Bronze provides a tighter seal and is easier to install than other metals. Can be used for water, plumbing, heating, pneumatic and marine applications, able to resist the harmful effects of corrosion when coming into contact with salt water or fresh water polluted with mineral acids or peaty soils.

## LEAD FREE BRASS FITTINGS

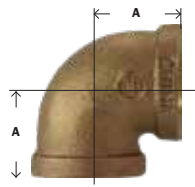


- Approved to ANSI/NSF 61-4 California AB 1953
- Meets Federal State Drinking Water Act, Lead Free Requirement
- Brass fittings conform to AWWA C800
- Brass castings conform to ASTM B584, UNS Alloy C8933
- Brass fittings dimensions conform to ASME B16.15
- NPT threads on all fittings conform to ASME B1.20.1
- Brass unions conform to specification A-A-59617
- Manufacturing facilities are ISO 9001:2008

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



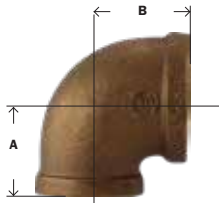
100RB

738100



### 90° ELBOWS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44100	----	0.08	50/600	1/8"	0.55	0.06	44-100LF	----
44101	----	0.12	35/420	1/4"	0.72	0.10	44-101LF	----
44102	----	0.17	90/360	3/8"	0.83	0.15	44-102LF	----
44103	----	0.24	50/200	1/2"	1.03	0.25	44-103LF	----
44104	----	0.34	35/105	3/4"	1.19	0.41	44-104LF	----
44105	----	0.61	20/60	1"	1.43	0.69	44-105LF	----
44106	----	0.95	20/40	1-1/4"	1.71	1.02	44-106LF	----
44107	----	1.30	15/30	1-1/2"	1.87	1.36	44-107LF	----
44108	----	2.07	8/16	2"	2.14	2.14	44-108LF	----
44109	----	3.80	1/12	2-1/2"	2.74	3.79	44-109LF	----
44110	----	4.76	1/4	3"	3.10	5.21	44-110LF	----
44112	----	9.71	1/2	4"	3.80	8.59	44-112LF	----



100RRB

738105



### 90° REDUCING ELBOWS

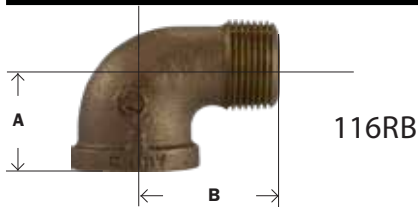
PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	B	APPROX. WT. LBS.	PART #	
44120				1/4 x 1/8				44120LF	----
				3/8 x 1/8				44121LF	----
44122	----			3/8 x 1/4				44122LF	----
44123	----	0.44	60/240	1/2 x 1/4	0.93	0.90	0.19	44123LF	----
44124	----	0.58	60/240	1/2 x 3/8	0.93	0.90	0.22	44124LF	----
44125	----	0.80	40/160	3/4 x 1/4	1.08	1.11	0.31	44125LF	----
				3/4 x 3/8				44126LF	----
44127	----			3/4 x 1/2				44127LF	----
				1 x 1/4				44128LF	----
				1 x 3/8				44129LF	----
				1 x 1/2				44130LF	----
44131	----	1.07	50/100	1 x 3/4	1.30	1.31	0.56	44131LF	----
				1 1/4 x 1/2				44132LF	----
				1 1/4 x 3/4				44133LF	----
44134	----	0.80	25/50	1 1/4 x 1	1.52	1.60	0.81	44134LF	----
				1 1/2 x 1/2				44135LF	----
				1 1/2 x 3/4				44136LF	----
44137	----	1.07	10/40	1 1/2 x 1	1.56	1.72	1.02	44137LF	----
				1 1/2 x 1 1/4				44138LF	----
44140	----			2 x 1				44140LF	----
				2 x 1 1/4				44141LF	----
				2 x 1 1/2				44142LF	----
				2 1/2 x 2				44146LF	----
				3 x 2				44150LF	----

• Other sizes available online

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



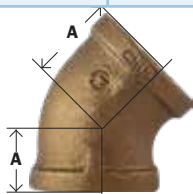
738116

**LEAD  
FREE**



### 90° STREET ELLS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	B	APPROX. WT. LBS.	PART #	
44160	----	0.07	60/720	1/8"	0.55	0.92	0.06	44160LF	----
44161	----	0.11	35/420	1/4"	0.72	1.11	0.11	44161LF	----
44162	----	0.18	60/240	3/8"	0.83	1.24	0.16	44162LF	----
44163	----	0.24	60/180	1/2"	1.03	1.51	0.24	44163LF	----
44164	----	0.37	35/105	3/4"	1.19	1.66	0.38	44164LF	----
44165	----	0.67	45/90	1"	1.43	1.98	0.66	44165LF	----
44166	----	1.00	25/50	1-1/4"	1.71	2.26	0.99	44166LF	----
44167	----	1.37	9/27	1-1/2"	1.87	2.46	1.15	44167LF	----
44168	----	1.93	8/16	2"	2.14	2.98	2.07	44168LF	----
44169	----	4.05	5/10	2-1/2"	2.74	3.92	3.79	44169LF	----
44170	----	6.16	1/8	3"	3.10	4.45	6.38	44170LF	----



10045RB

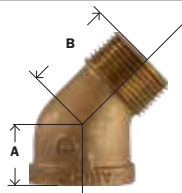
738107

**LEAD  
FREE**



### 45° ELBOWS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44180	----	0.08	50/600	1/8"	0.43	0.05	44180LF	----
44181	----	0.13	30/360	1/4"	0.55	0.09	44181LF	----
44182	----	0.17	75/300	3/8"	0.63	0.14	44182LF	----
44183	----	0.21	50/200	1/2"	0.79	0.19	44183LF	----
44184	----	0.32	40/120	3/4"	0.91	0.36	44184LF	----
44185	----	0.52	20/60	1"	1.07	0.59	44185LF	----
44186	----	0.86	20/40	1-1/4"	1.23	0.87	44186LF	----
44187	----	1.10	10/30	1-1/2"	1.31	1.13	44187LF	----
44188	----	1.71	12/24	2"	1.47	1.65	44188LF	----
44189	----	3.24	1/12	2-1/2"	1.95	2.69	44189LF	----
44190	----	4.12	1/10	3"	2.17	3.68	44190LF	----
				4"	2.60	7.49	44191LF	----



124RB

738124

**LEAD  
FREE**



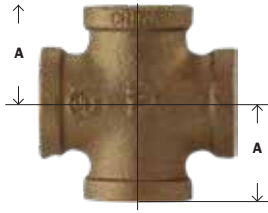
### 45° STREET ELBOWS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	B	APPROX. WT. LBS.	PART #	
44200	----	0.06	70/840	1/8"	0.26	0.43	0.06		
44201	----	0.11	100/400	1/4"	0.35	0.56	0.09	44201LF	----
44202	----	0.13	100/400	3/8"	0.37	0.63	0.12	44202LF	----
44203	----	0.18	75/225	1/2"	0.45	0.79	0.22	44203LF	----
44204	----	0.28	40/120	3/4"	0.52	0.91	0.31	44204LF	----
44205	----	0.52	25/75	1"	0.60	1.07	0.52	44205LF	----
44206	----	0.77	10/40	1-1/4"	0.67	1.23	0.72	44206LF	----
44207	----	0.97	10/30	1-1/2"	0.70	1.31	1.05	44207LF	----
44208	----	2.04	12/24	2"	0.76	1.47	2.04	44208LF	----



# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



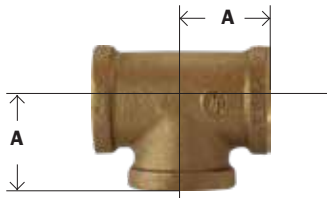
102RB

738102



### CROSSES

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44391	----	0.20	60/240	1/4"	0.72	0.15	44391LF	----
44392	----	0.15	50/150	3/8"	0.83	0.25	44392LF	----
44393	----	0.45	30/90	1/2"	1.03	0.38	44393LF	----
44394	----	0.76	20/60	3/4"	1.19	0.59	44394LF	----
44395	----	1.04	15/30	1"	1.19	0.94	44395LF	----
44396	----	1.63	10/20	1-1/4"	1.71	1.43	44396LF	----
44397	----	2.10	8/16	1-1/2"	1.87	1.89	44397LF	----
44398	----	3.28	5/10	2"	2.14	2.95	44398LF	----



101RB



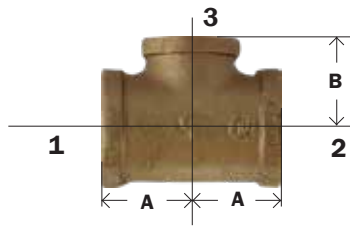
### TEES

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44250	----	0.11	120/480	1/8"	0.55	0.09	44250LF	----
44251	----	0.17	75/300	1/4"	0.72	0.13	44251LF	----
44252	----	0.25	45/180	3/8"	0.83	0.21	44252LF	----
44253	----	0.31	40/120	1/2"	1.03	0.35	44253LF	----
44254	----	0.50	35/70	3/4"	1.19	0.55	44254LF	----
44255	----	0.85	20/40	1"	1.43	0.92	44255LF	----
44256	----	1.29	14/28	1-1/4"	1.71	1.34	44256LF	----
44257	----	1.68	12/24	1-1/2"	1.87	1.82	44257LF	----
44258	----	2.70	8/16	2"	2.14	2.80	44258LF	----
44259	----	5.14	1/6	2-1/2"	2.74	4.70	44259LF	----
44260	----	7.59	1/6	3"	3.10	6.69	44260LF	----
				4"	3.18	11.92	44261LF	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

NIPPLES AND FITTINGS



101RRB

738106



## REDUCING TEES REDUCING ON THE BRANCH

PART #		APPROX. WT. LBS.	BOX/ CASE	SIZE 1 X 2 X 3	A	B	APPROX. WT. LBS.	PART #	
				1/4 x 1/4 x 1/8				44270LF	----
				3/8 x 3/8 x 1/4				44273LF	----
44276	----	0.24	40/160	1/2 x 1/2 x 1/4	0.87	0.87	0.28	44276LF	----
				1/2 x 1/2 x 3/8				44279LF	----
44280	----	0.46	40/160	1/2 x 1/2 x 3/4	2.42	1.155	0.48	44280LF	----
44287	----			3/4 x 1/2 x 1/2				44287LF	----
				3/4 x 1/2 x 3/4				44288LF	----
44282	----	0.43	25/100	3/4 x 3/4 x 1/4	1.05	1.08	0.38	44282LF	----
44283	----	0.45	25/100	3/4 x 3/4 x 3/8	1.00	1.00	0.46	44283LF	----
44286	----	0.53	20/80	3/4 x 3/4 x 1/2	1.08	1.11	0.40	44286LF	----
				3/4 x 3/4 x 1				44288LF	----
				1 x 1/2 x 1/2				44292LF	----
				1 x 1/2 x 3/4				44293LF	----
44296	----			1 x 3/4 x 3/4				44296LF	----
				1 x 1 x 1/4				44268LF	----
				1 x 1 x 3/8				44290LF	----
44291	----	0.60	15/60	1 x 1 x 1/2	1.20	1.24	0.73	44291LF	----
44298	----	0.80	12/48	1 x 1 x 3/4	1.30	1.31	0.71	44298LF	----
				1 1/4 x 1/2 x 1 1/4				44314LF	----
44301	----	0.85	20/40	1 1/4 x 1 1/4 x 1/2	1.34	1.53	1.18	44301LF	----
44303	----	0.90	20/40	1 1/4 x 1 1/4 x 3/4	1.30	1.31	1.08	44303LF	----
44306	----	1.21	20/40	1 1/4 x 1 1/4 x 1	1.58	1.67	1.23	44306LF	----
				1 1/2 x 1 1/2 x 1/2				44315LF	----
				1 1/2 x 1 1/2 x 3/4				44316LF	----
				1 1/2 x 1 1/2 x 1				44318LF	----
				1 1/2 x 1 1/2 x 1 1/4				44322LF	----
				2 x 2 x 1/2				44327LF	----
				2 x 2 x 3/4				44328LF	----
				2 x 2 x 1			1.88	44330LF	----
				2 x 2 x 1 1/4			2.03	44334LF	----
				2 x 2 x 1 1/2				44336LF	----
				2 1/2 x 2 1/2 x 2				44344LF	----
				3 x 3 x 2				44351LF	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



NIPPLES & FITTINGS

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



103RB

738103



### COUPLINGS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44410	----	0.12	70/840	1/8"	0.80	0.06	44410LF	----
44411	----	0.11	40/480	1/4"	0.80	0.09	44411LF	----
44412	----	0.15	40/480	3/8"	1.05	0.13	44412LF	----
44413	----	0.18	60/240	1/2"	1.29	0.21	44413LF	----
44414	----	0.28	50/150	3/4"	1.43	0.32	44414LF	----
44415	----	0.45	25/100	1"	1.68	0.53	44415LF	----
44416	----	0.63	16/64	1-1/4"	1.86	0.73	44416LF	----
44417	----	0.82	18/36	1-1/2"	1.92	0.97	44417LF	----
44418	----	1.38	12/24	2"	2.20	1.51	44418LF	----
44419	----	2.63	1	2-1/2"	2.88	2.20	44419LF	----
44420	----	3.80	1	3"	3.18	3.63	44420LF	----
				4"			44421LF	----



119RB

738119



### REDUCING COUPLINGS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44430	----	0.08	70/840	1/4" x 1/8"	0.88	0.08	44430LF	----
44431	----	0.11	35/420	3/8" x 1/8"	0.92	0.10	44431LF	----
44432	----	0.13	30/360	3/8" x 1/4"	0.92	0.11	44432LF	----
44433	----	0.16	75/300	1/2" x 1/8"	1.17	0.14		
44434	----	0.16	75/300	1/2" x 1/4"	1.17	0.16	44434LF	----
44435	----	0.18	60/240	1/2" x 3/8"	1.17	0.17	44435LF	----
44436	----	0.23	45/180	3/4" x 1/4"	1.35	0.20	44436LF	----
44437	----	0.24	45/180	3/4" x 3/8"	1.35	0.23	44437LF	----
44438	----	0.23	60/180	3/4" x 1/2"	1.35	0.26	44438LF	----
44440	----	0.40	30/120	1" x 3/8"	1.56	0.40		
44441	----	0.33	30/120	1" x 1/2"	1.56	0.38	44441LF	----
44442	----	0.44	25/100	1" x 3/4"	1.56	0.43	44442LF	----
44444	----	0.62	25/75	1-1/4" x 1/2"	1.77	0.60	44444LF	----
44445	----	0.64	25/75	1-1/4" x 3/4"	1.77	0.57	44445LF	----
44446	----	0.54	15/60	1-1/4" x 1"	1.77	0.65	44446LF	----
44447	----	0.80	20/60	1-1/2" x 1/2"	1.80	0.77	44447LF	----
44448	----	0.83	15/60	1-1/2" x 3/4"	1.80	0.74	44448LF	----
44449	----	0.68	25/50	1-1/2" x 1"	1.80	0.83	44449LF	----
44450	----	0.99	12/48	1-1/2" x 1-1/4"	1.80	0.87	44450LF	----
44458	----	1.28	12/36	2" x 1/2"	2.03	1.07		
44451	----	0.97	12/36	2" x 3/4"	2.03	1.25	44451LF	----
44452	----	1.40	12/36	2" x 1"	2.03	1.19	44452LF	----
44453	----	1.09	9/27	2" x 1-1/4"	2.03	1.22	44453LF	----
44454	----	3.60	9/27	2" x 1-1/2"	2.03	1.28	44454LF	----
44461	----	1.26	1	2-1/2" x 1-1/2"	3.15	1.94		
44462	----	2.29	1	2-1/2" x 2"	3.15	2.37	44462LF	----
44456	----	2.49	1	3" x 2"	3.69	2.46		
44463	----	3.92	1	3" x 2-1/2"	3.69	3.82		

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



108RB

738108



### CAPS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44470	----	0.04	80/160	1/8"	0.53	0.03	44470LF	----
44471	----	0.06	80/960	1/4"	0.58	0.06	44471LF	----
44472	----	0.10	60/720	3/8"	0.66	0.09	44472LF	----
44473	----	0.13	75/300	1/2"	0.75	0.13	44473LF	----
44474	----	0.19	40/160	3/4"	0.87	0.21	44474LF	----
44475	----	0.30	25/100	1"	1.03	0.35	44475LF	----
44476	----	0.51	20/80	1-1/4"	1.10	0.52	44476LF	----
44477	----	0.66	18/54	1-1/2"	1.12	0.65	44477LF	----
44478	----	1.00	12/36	2"	1.35	1.14	44478LF	----
44479				2-1/2"	1.69	1.83	44479LF	----
44480	----	2.74	1	3"	1.83	2.64	44480LF	----
				4"	2.09	4.21	44481LF	----



104RB

738104



### UNIONS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	APPROX. WT. LBS.	PART #	
44600	----	0.17	40/160	1/8"	1.18	0.13	44600LF	----
44601	----	0.25	40/160	1/4"	1.26	0.27	44601LF	----
44602	----	0.37	40/160	3/8"	1.50	0.39	44602LF	----
44603	----	0.52	50/100	1/2"	1.57	0.44	44603LF	----
44604	----	0.78	35/70	3/4"	1.89	0.59	44604LF	----
44605	----	1.18	20/40	1"	2.13	0.90	44605LF	----
44606	----	1.64	15/30	1-1/4"	2.36	1.33	44606LF	----
44607	----	2.08	10/20	1-1/2"	2.68	1.80	44607LF	----
44608	----	3.24	6/12	2"	2.99	2.66	44608LF	----
44609	----	5.31	4/8	2-1/2"	3.35	4.80	44609LF	----
44610	----	6.94	4/8	3"	3.74	6.49	44610LF	----
				4"	3.86	9.56	44611LF	----



• Straight Thread

111RB

738111



### HEX LOCKNUTS

PART #	BOX/CASE	SIZE	A	THICKNESS	APPROX. WT. LBS.		
44-700	180/720	1/8"	0.50	0.19	0.01	44700LF	----
44-701	90/540	1/4"	0.66	0.25	0.03	44701LF	----
44-702	90/540	3/8"	0.77	0.28	0.04	44702LF	----
44-703	90/360	1/2"	0.97	0.31	0.09	44703LF	----
44-704	90/360	3/4"	1.23	0.34	0.10	44704LF	----
44-705	50/150	1"	1.50	0.38	0.17	44705LF	----
44-706	45/180	1-1/4"	1.86	0.42	0.22	44706LF	----
44-707	45/135	1-1/2"	2.12	0.47	0.29	44707LF	----
44-708	25/75	2"	2.63	0.53	0.45	44708LF	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS



Hex

110RB

738110



### HEX BUSHINGS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	HEX	APPROX. WT. LBS.	PART #	
44500	----	0.02	120/1440	1/4" x 1/8"	0.58	0.66	0.03	44500LF	----
44501	----	0.06	75/900	3/8" x 1/8"	0.64	0.72	0.06	44501LF	----
44502	----	0.04	75/900	3/8" x 1/4"	0.64	0.75	0.04	44502LF	----
44503	----	0.10	150/600	1/2" x 1/8"	0.75	0.92	0.09	44503LF	----
44504	----	0.09	150/600	1/2" x 1/4"	0.75	0.93	0.10	44504LF	----
44505	----	0.08	150/600	1/2" x 3/8"	0.75	0.92	0.08	44505LF	----
44506	----	0.17	75/300	3/4" x 1/8"	0.87	1.15	0.17	44506LF	----
44507	----	0.15	75/300	3/4" x 1/4"	0.85	1.14	0.18	44507LF	----
44508	----	0.14	75/300	3/4" x 3/8"	0.85	1.14	0.17	44508LF	----
44509	----	0.14	75/300	3/4" x 1/2"	0.85	1.15	0.14	44509LF	----
44557	----	0.24	50/200	1" x 1/8"	1.05	1.43			
44510*	----	0.23	50/200	1" x 1/4"	1.05	1.43	0.28	44510LF*	----
44511*	----	0.22	50/200	1" x 3/8"	1.05	1.50	0.26	44511LF	----
44512	----	0.25	50/200	1" x 1/2"	1.00	1.40	0.30	44512LF	----
44513	----	0.21	50/200	1" x 3/4"	1.00	1.43	0.21	44513LF	----
44514	----	0.34	30/120	1-1/4" x 1/4"	1.22	1.10	0.34	44514LF	----
44515	----	0.35	30/120	1-1/4" x 3/8"	1.19	1.84	0.29	44515LF	----
44516*	----	0.34	30/120	1-1/4" x 1/2"	1.14	1.33	0.39	44516LF*	----
44517	----	0.40	30/120	1-1/4" x 3/4"	1.08	1.75	0.43	44517LF	----
44518	----	0.33	30/120	1-1/4" x 1"	1.08	1.76	0.42	44518LF	----
44519*	----	0.47	25/75	1-1/2" x 1/4"	1.09	2.12	0.29	44519LF	----
44520*	----	0.45	25/75	1-1/2" x 3/8"	1.35	2.16	0.44	44520LF	----
44521*	----	0.44	25/75	1-1/2" x 1/2"	1.20	2.10	0.51	44521LF*	----
44522*	----	0.48	25/75	1-1/2" x 3/4"	1.20	2.12	0.54	44522LF*	----
44523	----	0.53	25/75	1-1/2" x 1"	1.14	2.08	0.57	44523LF	----
44524	----	0.45	25/75	1-1/2" x 1-1/4"	1.14	2.12	0.46	44524LF	----
44527*	----	0.67	20/60	2" x 1/2"	1.27	1.32	1.10	44527LF	----
44528*	----	0.74	20/60	2" x 3/4"	1.27	1.62	0.77	44528LF	----
44529*	----	0.76	20/60	2" x 1"	1.29	1.95	0.77	44529LF*	----
44530	----	0.86	20/60	2" x 1-1/4"	1.22	2.47	0.88	44530LF	----
44531	----	0.83	20/60	2" x 1-1/2"	1.22	2.50	0.71	44531LF	----
44532	----	1.16	15/30	2-1/2" x 1"	1.53	1.94	1.19	44532LF	----
			15/30	2-1/2" x 1-1/4"		1.50	1.24	44533LF	----
44534	----	1.36	15/30	2-1/2" x 1-1/2"	1.50	2.38	1.15	44534LF	----
44535	----	1.13	15/30	2-1/2" x 2"	1.43	2.97	1.12	44535LF	----
44537	----	1.82	12/24	3" x 1-1/2"	1.61	2.68	2.44	44537LF	----
44538	----	2.33	12/24	3" x 2"	1.61	3.70	1.82	44538LF	----
44539	----	2.19	12/24	3" x 2-1/2"	1.53	3.70	2.11	44539LF	----
44541	----	3.51	5/10	4" x 2"	1.81	4.62	3.86	44541LF	----
			5/10	4" x 2-1/2"	1.81	4.62	3.48	44542LF	----
44543	----	4.22	12/24	4" x 3"	2.01	4.62	3.56	44543LF	----



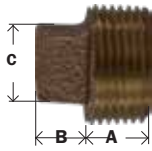
\* INSIDE HEX

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BRONZE/ LEAD FREE BRONZE

NIPPLES AND FITTINGS



109RB

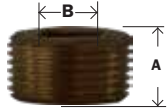
738109



## CORED SQUARE HEAD PLUGS

PART #		APPROX. WT. LBS.	BOX/CASE	SIZE	A	B	C	APPROX. WT. LBS.	PART #	
44650*	----	0.02	300/3600	1/8"	0.27	0.24	0.28	0.02	44650LF	----
44651*	----	0.04	150/1800	1/4"	0.41	0.28	0.37	0.04	44651LF	----
44652*	----	0.06	100/1200	3/8"	0.41	0.31	0.43	0.06	44652LF	----
44653	----	0.10	50/600	1/2"	0.54	0.38	0.56	0.10	44653LF	----
44654	----	0.13	30/360	3/4"	0.55	0.44	0.62	0.13	44654LF	----
44655	----	0.25	20/240	1"	0.69	0.50	0.81	0.22	44655LF	----
44656	----	0.39	40/120	1-1/4"	0.71	0.56	0.93	0.32	44656LF	----
44657	----	0.57	30/90	1-1/2"	0.73	0.62	1.12	0.47	44657LF	----
44658	----	0.77	20/60	2"	0.76	0.68	1.31	0.68	44658LF	----
44659	----	1.25	16/32	2-1/2"	1.07	0.74	1.50	1.26	44659LF	----
44660	----	2.02	16/32	3"	1.13	0.80	1.68	1.49	44660LF	----
44662	----	3.20	6/12	4"	1.22	0.92	2.25	3.20	44662LF	----

\* solid



109ALRB

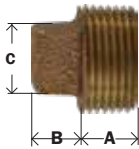
SQUARE DRIVE

738115

## BRONZE COUNTERSUNK PLUGS



PART #	A	SOCKET SIZE	SIZE	BOX/CASE	APPROX. WT. LBS.	SIZE	
			1/8"			44630LF	----
			1/4"			44631LF	----
			3/8"			44632LF	----
44633	0.57	0.43	1/2"	120/1440	0.06	44633LF	----
44634	0.58	0.47	3/4"	70/840	0.11	44634LF	----
44635	0.75	0.59	1"	20/240	0.22	44635LF	----
44636	0.74	0.72	1-1/4"	40/120	0.33	44636LF	----
44637	0.79	0.72	1-1/2"	30/90	0.50	44637LF	----
44638	0.80	0.85	2"	20/60	0.88	44638LF	----
44639	1.08	1.25	2-1/2"	1/1	1.56	44639LF	----
44640	1.13	1.38	3"	1/1	2.47	44640LF	----
44641	1.22	2.12	4"	1/1	3.21	44641LF	----



109SRB

738114

## SOLID SQUARE HEAD PLUGS



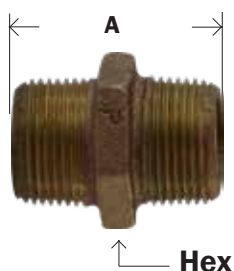
PART #		A	B	C	SIZE	BOX/CASE	APPROX. WT. LBS.	PART #	
44670	----	0.27	0.24	0.28	1/8"	400/4800	0.02	44670LF	----
44671	----	0.41	0.28	0.37	1/4"	150/1800	0.04	44671LF	----
44672	----	0.41	0.31	0.43	3/8"	120/1440	0.06	44672LF	----
44673	----	0.54	0.38	0.56	1/2"	50/600	0.12	44673LF	----
44674	----	0.55	0.44	0.62	3/4"	35/420	0.18	44674LF	----
44675	----	0.69	0.50	0.81	1"	20/240	0.36	44675LF	----
44676	----	0.71	0.56	0.93	1-1/4"	30/120	0.63	44676LF	----
44677	----	0.73	0.62	1.12	1-1/2"	30/90	0.84	44677LF	----
44678	----	0.76	0.68	1.31	2"	10/60	1.27	44678LF	----
					2-1/2"			44679LF	----
					3"			44680LF	----
					4"			44681LF	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ LEAD FREE BRONZE

## NIPPLES AND FITTINGS

### HEX NIPPLES



PART #	SIZE	A	HEX	BOX/CASE	APPROX. WT. LBS.	
44720	1/8"	1.25	0.50	400/4800	0.05	----
44721	1/4"	1.25	0.61	150/1800	0.06	----
44722	3/8"	1.55	0.68	120/1440	0.11	----
44723	1/2"	1.65	1.03	240/480	0.18	----
44724	3/4"	1.77	1.21	80/320	0.24	----
44725	1"	2.06	1.46	50/150	0.36	----
44726	1-1/4"	2.12	1.81	50/100	0.47	----
44727	1-1/2"	2.25	2.07	35/70	0.76	----
44728	2"	2.50	2.41	20/40	1.50	----
44729	2-1/2"	2.80	3.10	1	2.10	----
44730M	3"	3.58	3.88	4/8	2.53	----

### REDUCING HEX NIPPLES



PART #	SIZE	BOX/CASE	APPROX. WT. LBS.	
44740	1/4" x 1/8"	1/1	0.06	----
44742	1/2" x 3/8"	1/1	0.16	----
44750	1-1/2" x 1"	1/1	0.64	----
44753	1-1/2" x 1-1/4"	1/1	0.68	----

See page 239 for Stainless Steel Reducing Hex Nipples

### FLANGE THREADED COMPANION LEAD-FREE



PART #	SIZE	STD. PACK.	WT. PER 100	
44790LF	1/2" x 3-1/2"	1	95	----
44791LF	3/4" x 3-7/8"	1	124	----
44792LF	1" x 4-1/4"	1	168	----
44793LF	1-1/4" x 4-5/8"	1	224	----
44794LF	1-1/2" x 5"	1	251	----
44795LF	2" x 6"	1	454	----
44796LF	2-1/2" x 7"	1	673	----
44797LF	3" x 7-1/2"	1	864	----
44798LF	4" x 9"	1	1227	----
44799LF	5" x 10"	1	1495	----
44800LF	6" x 11"	1	1801	----

### FLANGE SWEAT COMPANION LEAD FREE



PART #	SIZE	STD. PACK.	WT. PER 100	
44827LF	1-1/2" x 5"	1	176	----
44828LF	2" x 6"	1	291	----
44829LF	2-1/2" x 7"	1	405	----
44830LF	3" x 7-1/2"	1	520	----
44831LF	4" x 9"	1	798	----

### FLANGE FLOOR LEAD FREE



PART #	SIZE	STD. PACK.	WT. PER 100	
44780LF	1/2"	1	35	----
44781LF	3/4"	1	44	----
44782LF	1"	1	59	----
44783LF	1-1/4"	1	87	----
44784LF	1-1/2"	1	105	----
44785LF	2"	1	150	----

**WARNING:** This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# CHROME PLATED BRONZE FITTINGS

NIPPLES AND FITTINGS

## CHROME PLATED BRONZE FITTINGS

### CHROME PLATED 90° ELBOW



781100

PART #	SIZE	
45102LF	3/8"	----
45103LF	1/2"	----
45104LF	3/4"	----
45105LF	1"	----

### CHROME PLATED COUPLING



781103

PART #	SIZE	
45412LF	3/8"	----
45413LF	1/2"	----
45435LF	1/2" x 3/8"	----

### 90° ELBOW



81100

PART #	SIZE	APPROX. WT. LBS.	
45100	1/8"	0.08	----
45101	1/4"	0.12	----
45102	3/8"	0.17	----
45103	1/2"	0.24	----
45104	3/4"	0.34	----
45105	1"	0.61	----
45124	1/2" x 3/8"	0.58	----
45127	3/4" x 1/2"	0.80	----

### 90° STREET ELLS



81116

PART #	SIZE	APPROX. WT. LBS.	
45160	1/8"	0.07	----
45161	1/4"	0.11	----
45162	3/8"	0.18	----
45163	1/2"	0.24	----
45164	3/4"	0.37	----
45165	1"		----

### CHROME PLATED 90° ELBOW



781116

PART #	SIZE	
45163LF	1/2"	----
45164LF	3/4"	----

### CHROME PLATED TEE



781101

PART #	SIZE	
45252LF	3/8"	----
45253LF	1/2"	----

### 45° ELBOW



81124

PART #	SIZE	APPROX. WT. LBS.	
45200	1/8"	0.06	----
45201	1/4"	0.11	----
45202	3/8"	0.13	----
45203	1/2"	0.18	----
45204	3/4"	0.28	----

### CROSSES



81102

PART #	SIZE	APPROX. WT. LBS.	
45393	1/2"	0.45	----
45394	3/4"	0.76	----

# CHROME PLATED BRONZE FITTINGS

NIPPLES AND FITTINGS

## 45° ELBOWS



81107

PART #	SIZE	APPROX. WT. LBS.	
45180	1/8"	0.08	----
45181	1/4"	0.13	----
45182	3/8"	0.17	----
45183	1/2"	0.21	----
45184	3/4"	0.32	----
45185	1"	0.52	----

## TEES



81101

PART #	SIZE	APPROX. WT. LBS.	
45250	1/8"	0.11	----
45251	1/4"	0.17	----
45252	3/8"	0.25	----
45253	1/2"	0.31	----
45254	3/4"	0.50	----
45255	1"	0.85	----

## COUPLINGS



81103

PART #	SIZE	APPROX. WT. LBS.	
45410	1/8"	0.12	----
45411	1/4"	0.11	----
45412	3/8"	0.15	----
45413	1/2"	0.18	----
45414	3/4"	0.28	----
45415	1"	0.45	----
45432	3/8" x 1/4"	0.13	----
45435	1/2" x 3/8"	0.18	----
45438	3/4" x 1/2"	0.23	----
45439	1" x 3/4"	0.44	----

## CAPS



81108

PART #	SIZE	APPROX. WT. LBS.	
45470	1/8"	0.04	----
45471	1/4"	0.06	----
45472	3/8"	0.10	----
45473	1/2"	0.13	----
45474	3/4"	0.19	----
45475	1"		----

## UNIONS



81104

PART #	SIZE	APPROX. WT. LBS.	
45600	1/8"	0.17	----
45601	1/4"	0.25	----
45602	3/8"	0.37	----
45603	1/2"	0.52	----
45604	3/4"	0.78	----
45605	1"	1.18	----
45606	1-1/4"	1.64	----

## HEX BUSHINGS



81110

PART #	SIZE	APPROX. WT. LBS.	
45502	3/8" x 1/4"	0.04	----
45504	1/2" x 1/4"	0.09	----
45505	1/2" x 3/8"	0.08	----
45509	3/4" x 1/2"	0.14	----
45513	1" x 3/4"	0.21	----

## PLUGS



PART #	SIZE	APPROX. WT. LBS.	
45652	3/8"	0.06	----
45653	1/2"	0.10	----
45654	3/4"	0.13	----
45655	1"	0.25	----
45657	1-1/2"	0.57	----

# USA MADE, LEAD FREE BRONZE FITTINGS

NIPPLES AND FITTINGS

## 90° ELBOWS



PART #	SIZE	LBS.	
44100DLF	1/8"	0.06	----
44101DLF	1/4"	0.10	----
44102DLF	3/8"	0.15	----
44103DLF	1/2"	0.25	----
44104DLF	3/4"	0.41	----
44105DLF	1"	0.69	----
44106DLF	1-1/4"	1.02	----
44107DLF	1-1/2"	1.36	----
44108DLF	2"	2.14	----
44109DLF	2-1/2"	3.79	----
44110DLF	3"	5.21	----
44112DLF	4"	8.59	----

## 90° REDUCING ELBOWS



PART #	SIZE	LBS.	
44120DLF	1/4 x 1/8	0.09	----
44121DLF	3/8 x 1/8	0.13	----
44122DLF	3/8 x 1/4	0.13	----
44123DLF	1/2 x 1/4	0.19	----
44124DLF	1/2 x 3/8	0.22	----
44125DLF	3/4 x 1/4	0.31	----
44126DLF	3/4 x 3/8	0.29	----
44127DLF	3/4 x 1/2	0.31	----
44128DLF	1 x 1/4	0.41	----
44129DLF	1 x 3/8	0.39	----
44130DLF	1 x 1/2	0.45	----
44131DLF	1 x 3/4	0.56	----
44132DLF	1 1/4 x 1/2	0.72	----
44133DLF	1 1/4 x 3/4	0.68	----
44134DLF	1 1/4 x 1	0.81	----
44135DLF	1 1/2 x 1/2	0.94	----
44136DLF	1 1/2 x 3/4	0.88	----
44137DLF	1 1/2 x 1	1.02	----
44138DLF	1 1/2 x 1 1/4	1.00	----
44140DLF	2 x 1	1.46	----
44141DLF	2 x 1 1/4	1.48	----
44142DLF	2 x 1 1/2	1.73	----

## 90° DROP ELBOWS



PART #	SIZE	LBS.	
44839DLF	3/8"	0.25	----
44840DLF	1/2"	0.37	----

## 90° STREET ELBOWS



PART #	SIZE	LBS.	
44160DLF	1/8"	0.06	----
44161DLF	1/4"	0.11	----
44162DLF	3/8"	0.16	----
44163DLF	1/2"	0.24	----
44164DLF	3/4"	0.38	----
44165DLF	1"	0.66	----
44166DLF	1-1/4"	0.99	----
44167DLF	1-1/2"	1.15	----
44168DLF	2"	2.07	----
44169DLF	2-1/2"	3.79	----
44170DLF	3"	6.38	----

## 45° ELBOWS



PART #	SIZE	LBS.	
44180DLF	1/8"	0.05	----
44181DLF	1/4"	0.09	----
44182DLF	3/8"	0.14	----
44183DLF	1/2"	0.19	----
44184DLF	3/4"	0.36	----
44185DLF	1"	0.59	----
44186DLF	1-1/4"	0.87	----
44187DLF	1-1/2"	1.13	----
44188DLF	2"	1.65	----
44189DLF	2-1/2"	2.69	----
44190DLF	3"	3.68	----



# USA MADE, LEAD FREE BRONZE FITTINGS

NIPPLES AND FITTINGS

## 45° STREET ELBOWS



PART #	SIZE	LBS.	
44201DLF	1/4"	0.09	----
44202DLF	3/8"	0.12	----
44203DLF	1/2"	0.22	----
44204DLF	3/4"	0.31	----
44205DLF	1"	0.52	----
44206DLF	1-1/4"	0.72	----
44207DLF	1-1/2"	1.05	----
44208DLF	2"	2.04	----

## CROSSES



PART #	SIZE	LBS.	
44391DLF	1/4"	0.15	----
44392DLF	3/8"	0.25	----
44393DLF	1/2"	0.38	----
44394DLF	3/4"	0.59	----
44395DLF	1"	0.94	----
44396DLF	1-1/4"	1.43	----
44397DLF	1-1/2"	1.89	----
44398DLF	2"	2.95	----

## TEES



PART #	SIZE	LBS.	
44250DLF	1/8"	0.09	----
44251DLF	1/4"	0.13	----
44271DLF	1/4" x 1/4" x 3/8"	0.17	----
44270DLF	1/4" x 1/4" x 1/8"	0.12	----
44252DLF	3/8"	0.21	----
44281DLF	3/8" x 3/8" x 1/2"	0.24	----
44273DLF	3/8" x 3/8" x 1/4"	0.17	----
44253DLF	1/2"	0.35	----
44280DLF	1/2" x 1/2" x 3/4"	0.38	----
44276DLF	1/2" x 1/2" x 1/4"	0.23	----
44254DLF	3/4"	0.55	----
44289DLF	3/4" x 3/4" x 1"	0.55	----
44286DLF	3/4" x 3/4" x 1/2"	0.41	----
44283DLF	3/4" x 3/4" x 3/8"	0.40	----
44282DLF	3/4" x 3/4" x 1/4"	0.35	----
44288DLF	3/4" x 1/2" x 3/4"	0.42	----
44287DLF	3/4" x 1/2" x 1/2"	0.40	----
44255DLF	1"	0.92	----
44298DLF	1" x 1" x 3/4"	0.58	----
44291DLF	1" x 1" x 1/2"	0.56	----
44295DLF	1" x 1" x 1/4"	0.69	----
44297DLF	1" x 3/4" x 1"	0.58	----
44296DLF	1" x 3/4" x 3/4"	0.46	----
44294DLF	1" x 1/2" x 1"	0.51	----
44256DLF	1-1/4"	1.34	----
44306DLF	1-1/4" x 1-1/4" x 1"	0.91	----
44303DLF	1-1/4" x 1-1/4" x 3/4"	0.93	----
44300DLF	1-1/4" x 1-1/4" x 1/2"	0.93	----
44310DLF	1-1/4" x 1" x 1-1/4"	0.94	----
44302DLF	1-1/4" x 3/4" x 3/4"	0.92	----
44257DLF	1-1/2"	1.82	----
44318DLF	1-1/2" x 1-1/2" x 1"	1.20	----
44316DLF	1-1/2" x 1-1/2" x 3/4"	1.12	----
44258DLF	2"	2.80	----
44334DLF	2" x 2 x 1-1/4"	1.91	----
44330DLF	2" x 2" x 1"	1.70	----
44328DLF	2" x 2" x 3/4"	1.67	----
44259DLF	2-1/2"	4.70	----
44260DLF	3"	6.69	----
44350DLF	3" x 2" x 2"	3.40	----
44261DLF	4"	11.35	----

If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away.

- Henry David Thoreau

# USA MADE, LEAD FREE BRONZE FITTINGS

NIPPLES AND FITTINGS

## STREET TEES



PART #	SIZE	LBS.	
44364DLF	3/4"	0.46	----

## 45° Y-BRANCHES



PART #	SIZE	LBS.	
44963DLF	1/2"	0.30	----
44964DLF	3/4"	0.65	----
44965DLF	1"	0.97	----

## COUPLINGS



PART #	SIZE	LBS.	
44410DLF	1/8"	0.06	----
44411DLF	1/4"	0.09	----
44412DLF	3/8"	0.13	----
44413DLF	1/2"	0.21	----
44414DLF	3/4"	0.32	----
44415DLF	1"	0.53	----
44416DLF	1-1/4"	0.73	----
44417DLF	1-1/2"	0.97	----
44418DLF	2"	1.51	----
44419DLF	2-1/2"	2.20	----
44420DLF	3"	3.63	----

## REDUCING COUPLINGS



PART #	SIZE	LBS.	
44430DLF	1/4" x 1/8"	0.08	----
44431DLF	3/8" x 1/8"	0.10	----
44432DLF	3/8" x 1/4"	0.11	----
44433DLF	1/2" x 1/8"	0.14	----
44434DLF	1/2" x 1/4"	0.16	----
44435DLF	1/2" x 3/8"	0.17	----
44436DLF	3/4" x 1/4"	0.20	----
44437DLF	3/4" x 3/8"	0.23	----
44438DLF	3/4" x 1/2"	0.26	----
44440DLF	1" x 3/8"	0.40	----
44441DLF	1" x 1/2"	0.38	----
44442DLF	1" x 3/4"	0.43	----
44444DLF	1-1/4" x 1/2"	0.60	----
44445DLF	1-1/4" x 3/4"	0.57	----
44446DLF	1-1/4" x 1"	0.65	----
44447DLF	1-1/2" x 1/2"	0.77	----
44448DLF	1-1/2" x 3/4"	0.74	----
44449DLF	1-1/2" x 1"	0.83	----
44450DLF	1-1/2" x 1-1/4"	0.87	----
44458DLF	2" x 1/2"	2.03	----
44451DLF	2" x 3/4"	1.25	----
44452DLF	2" x 1"	1.19	----
44453DLF	2" x 1-1/4"	1.22	----
44454DLF	2" x 1-1/2"	1.28	----
44461DLF	2-1/2" x 1-1/2"	1.94	----
44462DLF	2-1/2" x 2"	2.37	----
44456DLF	3" x 2"	2.46	----
44463DLF	3" x 2-1/2"	3.82	----

Health is the greatest gift,  
contentment the greatest  
wealth, faithfulness the best  
relationship.

- Buddha

# USA MADE, LEAD FREE BRONZE FITTINGS

## NIPPLES AND FITTINGS

### CAPS



PART #	SIZE	LBS.	
44470DLF	1/8"	0.03	----
44471DLF	1/4"	0.06	----
44472DLF	3/8"	0.09	----
44473DLF	1/2"	0.13	----
44474DLF	3/4"	0.21	----
44475DLF	1"	0.35	----
44476DLF	1-1/4"	0.52	----
44477DLF	1-1/2"	0.65	----
44478DLF	2"	1.14	----
44480DLF	3"	2.64	----

### STANDARD UNIONS



PART #	SIZE	LBS.	
44601DLF	1/4"	0.27	----
44602DLF	3/8"	0.39	----
44603DLF	1/2"	0.44	----
44604DLF	3/4"	0.59	----
44605DLF	1"	0.90	----
44606DLF	1-1/4"	1.33	----
44607DLF	1-1/2"	1.80	----

Keep your face always toward the sunshine  
- and shadows will fall behind you.

- Walt Whitman

### HEX BUSHINGS



PART #	SIZE	LBS.	
44510DLF	1" x 1/4"	0.28	----
44511DLF	1" x 3/8"	0.26	----
44512DLF	1" x 1/2"	0.30	----
44513DLF	1" x 3/4"	0.21	----
44514DLF	1-1/4" x 1/4"	0.34	----
44515DLF	1-1/4" x 3/8"	0.29	----
44516DLF	1-1/4" x 1/2"	0.39	----
44517DLF	1-1/4" x 3/4"	0.43	----
44518DLF	1-1/4" x 1"	0.42	----
44519DLF	1-1/2" x 1/4"	0.29	----
44520DLF	1-1/2" x 3/8"	0.44	----
44521DLF	1-1/2" x 1/2"	0.51	----
44522DLF	1-1/2" x 3/4"	0.54	----
44523DLF	1-1/2" x 1"	0.57	----
44524DLF	1-1/2" x 1-1/4"	0.46	----
44527DLF	2" x 1/2"	1.10	----
44528DLF	2" x 3/4"	0.77	----
44529DLF	2" x 1"	0.77	----
44530DLF	2" x 1-1/4"	0.88	----
44531DLF	2" x 1-1/2"	0.71	----
44532DLF	2-1/2" x 1"	1.19	----
44534DLF	2-1/2" x 1-1/2"	1.15	----
44535DLF	2-1/2" x 2"	1.12	----
44538DLF	3" x 2"	1.82	----
44539DLF	3" x 2-1/2"	2.11	----
44541DLF	4" x 2"	3.86	----

### COUNTERSUNK PLUGS



PART #	SIZE	LBS.	
44633DLF	1/2"	0.06	----
44634DLF	3/4"	0.11	----
44635DLF	1"	0.22	----
44636DLF	1-1/4"	0.33	----
44637DLF	1-1/2"	0.50	----
44638DLF	2"	0.88	----
44639DLF	2-1/2"	1.56	----
44640DLF	3"	2.47	----
44641DLF	4"	3.21	----

# USA MADE, LEAD FREE AND EXTRA HEAVY FITTINGS

NIPPLES AND FITTINGS

## REGULAR PLUGS



PART #	SIZE	LBS.	
44653DLF	1/2"	0.10	----
44654DLF	3/4"	0.13	----
44655DLF	1"	0.22	----
44656DLF	1-1/4"	0.32	----
44657DLF	1-1/2"	0.47	----
44658DLF	2"	0.68	----
44659DLF	2-1/2"	1.26	----
44660DLF	3"	1.49	----
44662DLF	4"	3.20	----

## SOLID PLUGS



PART #	SIZE	LBS.	
44672DLF	3/8"	0.06	----
44673DLF	1/2"	0.12	----
44674DLF	3/4"	0.18	----
44675DLF	1"	0.36	----
44676DLF	1-1/4"	0.63	----
44677DLF	1-1/2"	0.84	----
44678DLF	2"	1.27	----

Once I knew only darkness and stillness... my life was without past or future... but a little word from the fingers of another fell into my hand that clutched at emptiness, and my heart leaped to the rapture of living.

- Helen Keller

## USA EXTRA HEAVY FITTINGS

### EXTRA HEAVY ELBOWS



PART #	SIZE	LBS.	
43101	1/4"	0.17	----
43102	3/8"	0.29	----
43103	1/2"	0.47	----
43104	3/4"	0.67	----
43105	1"	1.31	----
43106	1-1/4"	1.81	----
43107	1-1/2"	2.60	----
43108	2"	3.54	----
43110	2-1/2"	5.58	----
43109	3"	8.20	----

### EXTRA HEAVY STREET ELBOWS



PART #	SIZE	LBS.	
43165	1"	0.85	----
43167	1-1/2"	2.10	----

### EXTRA HEAVY 45° ELBOWS



PART #	SIZE	LBS.	
43183	1/2"	0.40	----
43184	3/4"	0.61	----
43185	1"	0.96	----
43186	1-1/4"	1.54	----
43187	1-1/2"	2.10	----
43188	2"	3.21	----
43189	2-1/2"	5.00	----
43190	3"	7.25	----

# USA EXTRA HEAVY BRONZE FITTINGS

NIPPLES AND FITTINGS

## EXTRA HEAVY TEES



PART #	SIZE	LBS.	
43251	1/4"	0.21	----
43252	3/8"	0.35	----
43253	1/2"	0.64	----
43276	1/2" x 1/2" x 1/4"	0.51	----
43254	3/4"	1.05	----
43255	1"	1.56	----
43298	1" x 1" x 3/4"	1.30	----
43291	1" x 1" x 1/2"	1.16	----
43256	1-1/4"	2.43	----
43257	1-1/2"	3.15	----
43258	2"	5.05	----
43259	3"	7.55	----

## EXTRA HEAVY CROSSES



PART #	SIZE	LBS.	
43393	1/2"	0.71	----
43394	3/4"	1.24	----
43395	1"	1.95	----
43396	1-1/4"	2.92	----
43397	1-1/2"	4.06	----
43398	2"	5.75	----

## EXTRA HEAVY COUPLINGS



PART #	SIZE	LBS.	
43411	1/4"	0.15	----
43412	3/8"	0.24	----
43413	1/2"	0.36	----
43414	3/4"	0.57	----
43438	3/4" x 1/2"	0.45	----
43415	1"	0.91	----
43442	1" x 3/4"	0.70	----
43441	1" x 1/2"	0.75	----
43416	1-1/4"	1.37	----
43446	1-1/4" x 1"	1.22	----
43417	1-1/2"	1.79	----
43450	1-1/2" x 1-1/4"	1.67	----
43449	1-1/2" x 1"	1.45	----
43418	2"	2.76	----
43454	2" x 1-1/2"	2.30	----
43419	2-1/2"	4.10	----

## EXTRA HEAVY CAPS



PART #	SIZE	LBS.	
43473	1/2"	0.23	----
43474	3/4"	0.37	----
43475	1"	0.60	----
43476	1-1/4"	1.05	----
43477	1-1/2"	1.24	----
43478	2"	2.09	----

## EXTRA HEAVY UNIONS



PART #	SIZE	LBS.	
43601	1/4"	0.35	----
43602	3/8"	0.50	----
43603	1/2"	0.66	----
43604	3/4"	1.05	----
43605	1"	1.65	----
43606	1-1/4"	2.36	----
43607	1-1/2"	2.95	----
43608	2"	3.95	----
43609	2-1/2"	5.65	----
43610	3"	8.80	----



# CLEANOUT PLUGS/ DROP EAR ELBOWS

NIPPLES AND FITTINGS



• Southern Code

## CAST BRASS SQUARE HEAD CLEANOUT PLUG

PART #	SIZE	BOX/CASE	
970300	1-1/2"	100/200	----
970301	2"	100/200	----
970302	2-1/2"	50/200	----
970303	3"	20/160	----
970304	3-1/2"	20/120	----
970305	4"	10/80	----
970330	5"	10/60	----
970331	6"	10/40	----
970332	8"	5/20	----
970333	10"	1/1	----



• Southern Code

## CAST BRASS COUNTERSUNK HEAD CLEANOUT PLUG

PART #	SIZE	BOX/CASE	
970306	1-1/2"	100/200	----
970307	2"	100/200	----
970308	2-1/2"	100/200	----
970309	3"	50/200	----
970310	3-1/2"	20/160	----
970311	4"	20/120	----
970312	5"	10/60	----
970313	6"	10/40	----
970314	8"	5/20	----



## CAST BRASS COUNTERSUNK CLEANOUT W 1/4-20 TAP

PART #	SIZE	BOX/CASE	
970700	1-1/2"	1/1	----
970701	2"	1/1	----
970702	2-1/2"	1/1	----
970703	3"	1/1	----
970704	3-1/2"	1/1	----
970705	4"	1/1	----
970706	5"	1/1	----
970707	6"	1/1	----

## DROP EAR ELBOWS

• Lead Free Brass

• Lead Free Bronze



PART #	SWT X FIP	
44840LF	1/2 x 1/2 Bronze	----
44841LF	1/2 x 1/2 Brass	----
44842LF	3/4 x 1/2 Brass	----
44843LF	3/4 x 3/4 Brass	----



• Lead Free Brass

PART #	SWT X SWT	
44844LF	1/2 x 1/2	----



• Lead Free  
Bronze

PART #	PEX X FIP	
44845LF	1/2 x 1/2	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BRONZE/ STEEL INSERT FITTINGS

## NIPPLES AND FITTINGS

### BRONZE INSERT FITTINGS

150 PSI Genuine red brass - for plastic pipe

- Not Lead Free

#### HEX MALE ADAPTERS



( Barb x Male Pipe )

PART #	BARB X MALE	
973925	3/4" x 3/4"	----
973927	1" x 1"	----
973930	1" x 1-1/4"	----
973929	1-1/4" x 1"	----
973928	1-1/4" x 1-1/4"	----
973948	1-1/2" x 1-1/2"	----
973949	2" x 2"	----

#### BRONZE TEES ALL BARB



PART #	SIZE	
973965	3/4"	----
973966	1"	----
973967	1-1/4"	----

#### ELBOWS



( Barb x Male Pipe )

PART #	SIZE	
973980	3/4" x 3/4"	----
973981	1" x 3/4"	----
973982	1" x 1"	----

#### ELBOWS



( Barb x Barb )

PART #	HOSE SIZE	
973975	3/4"	----
973976	1"	----
973977	1-1/4" x 1"	----
973978	1-1/4"	----
973979	1-1/2"	----

### STEEL INSERT FITTINGS FOR PLASTIC PIPE

#### MALE ADAPTER

- Galvanized



( Barb x Male Pipe )

PART #	SIZE	BOX/CASE	
973906	1/2"	25/100	----
973907	3/4"	25/10	----
973908	1"	16/48	----
973909	1-1/4"	12/36	----
973910	1-1/2"	6/36	----
973911	2"	5/25	----
973912	2-1/2"	1/3	----
973913	3"	1/3	----
973914	4"	1/3	----



( Insert x NPT )

PART #	SIZE	
974264	3/4 x 1/2	----
974265	1 x 3/4	----
974266	1-1/4 x 1	----
974267	1-1/2 x 1-1/4	----

#### COUPLINGS



PART #	SIZE	BOX/CASE	
973900	1/2	30/120	----
973901	3/4	20/100	----
973902	1	20/100	----
973903	1-1/4	16/64	----
973904	1-1/2	12/48	----
973905	2	5/25	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SS AND LEAD FREE BRONZE INSERT

## NIPPLES AND FITTINGS

### STAINLESS STEEL #304



#### #304 INSERT X MALE PIPE

- For coiled plastic pipe to submersible pump

PART #	SIZE	
973947SS	1/2 x 1/2	----
973925SS	3/4 x 3/4	----
973926SS	1 x 3/4	----
973927SS	1 x 1	----
973930SS	1 x 1-1/4	----
973928SS	1-1/4 x 1-1/4	----
973948SS	1-1/2 x 1-1/2	----
973949SS	2 x 2	----



#### #304 INSERT X MIP ELBOW

- Hydrant elbow

PART #	SIZE	
973980SS	3/4 x 3/4	----
973982SS	1 x 1	----
973985SS	1-1/4 x 1-1/4	----

### LEAD FREE BRONZE INSERT FITTINGS

- NSF Approved
- ANSI 61-8



#### INSERT X INSERT

PART #	SIZE	
973960LF	1/2	----
973961LF	3/4	----
973962LF	1	----
973963LF	1-1/4	----

- NSF Approved
- ANSI 61-8



#### INSERT TEE

PART #	SIZE	
973965LF	3/4	----
973966LF	1	----
973967LF	1-1/4	----

- NSF Approved
- ANSI 61-8



#### INSERT X MALE BRANCH TEE

PART #	SIZE	
973969LF	3/4	----
973970LF	1 x 3/4	----
973971LF	1	----

- NSF Approved
- ANSI 61-8



#### INSERT X INSERT ELBOW

PART #	SIZE	
973975LF	3/4	----
973976LF	1	----

### WELL COUPLINGS



#### 304 SS DROP WELL COUPLINGS STANDARD

PART #	SIZE	
62415DC	1	----
62416DC	1-1/4	----
62417DC	1-1/2	----
62418DC	2	----



#### HEAVY WALLED SS 304 DROP WELL COUPLINGS

PART #	SIZE	
62415HDDC	1	----
62416HDDC	1-1/4	----
62417HDDC	1-1/2	----
62418HDDC	2	----



#### #304 STAINLESS STEEL MERCHANT COUPLINGS

PART #	SIZE	
61775	1	----
61776	1-1/4	----
61777	1-1/2	----
61778	2	----

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS

## STAINLESS STEEL NIPPLES



### SCHEDULE 40 WELDED

Stainless steel pipe nipples are manufactured from stainless steel pipe that conforms to specification ASTM A312/SA312.

All stainless steel nipples conform to specification ASTM A733. Threads conform to the requirements of ANSI B1.20.1.

### 304

The basic alloy. Type 304 (18-8) is an austenitic steel possessing a minimum of 18% chromium and 8% nickel, combined with a maximum of 0.08% carbon. It is a nonmagnetic steel which cannot be hardened by heat treatment, but instead, must be cold worked to obtain higher tensile strengths.

Because of its ability to withstand the corrosive action of various acids found in fruits, meats, milk, and vegetables,

Type 304 is especially suited for all types of dairy equipment piping and valves, the brewing industry, the citrus and fruit juice industry, and in food processing applications. Also used for the dye tanks, pipelines buckets, dippers, etc. that come in contact with the lormic, acetic, and other organic acids used in the dyeing industry.

In the marine environment, because of its slightly higher strength and wear resistance than type 316 it is also used for nuts, bolts, screws, and other fasteners. It is also used for springs, cogs, and other components where both wear and corrosion resistance is needed.

Both #304 and #316 nipples are NSF/ANSI 372 and NSF/ANSI 61 compliant.

### SCHEDULE 80 SEAMLESS

- SEAMLESS FOR UNRESTRICTED FLOW
- USE WITH AIR, WATER, OIL, NATURAL GAS, STEAM
- FITTINGS: USE THREADED CLASS 3000 HIGH-PRESSURE STAINLESS STEEL.

- ASTM A733 • ASTM A312 • ANSI/ ASME B1.20.1
- PSI 3000

### 316

For severe environments. Of course, there are many industrial processes that require a higher level of resistance to corrosion than Type 304 can offer. For these applications, Type 316 is the answer.

In type 316, the nickel content is increased slightly. What distinguishes Type 316 from Type 304 is the addition of molybdenum up to a maximum of 3%.

Molybdenum increases the corrosion resistance of this chromium-nickel alloy to withstand attack by many industrial chemicals and solvents, and, in particular, inhibits pitting caused by chlorides. As such, molybdenum is one of the single most useful alloying additives in the fight against corrosion.

Type 316 can withstand corrosive attack by sodium and calcium brines, hypochlorite solutions, phosphoric acid; and the sulfite liquors and sulfurous acids used in the paper pulp industry. This alloy, therefore, is specified for industrial equipment that handles the corrosive process chemicals used to produce inks, rayons, photographic chemicals, paper, textiles, bleaches, and rubber. Type 316 is also used extensively for surgical implants within the hostile environment of the body.

Type 316 is the main stainless used in the marine environment, with the exception of fasteners and other items where strength and wear resistance are needed, then Type 304 (18-8) is typically used.

# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS

#304

1/8" - 27

#316



**1/8" DIAMETER  
SCH 40 WELDED**



PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48001	X Close (3/4")	25	0.01	49001
48002	x 1-1/2"	25	0.03	49002
48003	x 2"	25	0.04	49003
48004	x 2-1/2"	25	0.05	49004
48005	x 3"	25	0.06	49005
48006	x 3-1/2"	25	0.07	49006
48007	x 4"	25	0.07	49007
48008	x 4-1/2"	25	0.09	49008
48009	x 5"	25	0.10	49009
48010	x 5-1/2"	25	0.11	49010
48011	x 6"	25	0.12	49011
48015	x 10"	1	0.19	
	x 12"	1	0.24	49017

1/4"-18



**1/4" DIAMETER  
SCH 40 WELDED**



PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48020	X Close (7/8")	25	0.02	49020
48021	x 1-1/2"	25	0.04	49021
48022	x 2"	25	0.06	49022
48023	x 2-1/2"	25	0.07	49023
48024	x 3"	25	0.09	49024
48025	x 3-1/2"	25	0.11	49025
48026	x 4"	25	0.13	49026
48027	x 4-1/2"	25	0.14	49027
48028	x 5"	25	0.16	49028
48029	x 5-1/2"	25	0.18	49029
48030	x 6"	25	0.19	49030
48031	x 7"	1	0.22	49031
48032	x 8"	1	0.25	49032
	x 9"	1	0.31	49033
48034	x 10"	1	0.35	49034
	x 11"	1	0.40	49035
48036	x 12"	1	0.44	49036
	x 14"	1	0.46	49037
	x 16"	1	0.47	49038

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

NIPPLES & FITTINGS



# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS

#304



3/8"-18

3/8" DIAMETER  
SCH 40 WELDED

#316



PART # 304 S.S.		LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
48040	----	X Close (1")	25	0.03	49040	----
48041	----	x 1-1/2"	25	0.06	49041	----
48042	----	x 2"	25	0.07	49042	----
48043	----	x 2-1/2"	25	0.10	49043	----
48044	----	x 3"	25	0.12	49044	----
48045	----	x 3-1/2"	25	0.15	49045	----
48046	----	x 4"	25	0.17	49046	----
48047	----	x 4-1/2"	25	0.19	49047	----
48048	----	x 5"	25	0.22	49048	----
48049	----	x 5-1/2"	25	0.23	49049	----
48050	----	x 6"	25	0.26	49050	----
48052	----	x 8"	1	0.34	49052	----
48053	----	x 9"	1			
48054	----	x 10"	1	0.43	49054	----
48056	----	x 12"	1			



1/2" - 14

1/2" DIAMETER  
SCH 40 WELDED



PART # 304 S.S.		LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
48060	----	X Close 1-1/8"	25	0.05	49060	----
48061	----	x 1-1/2"	25	0.07	49061	----
48062	----	x 2"	25	0.10	49062	----
48063	----	x 2-1/2"	25	0.14	49063	----
48064	----	x 3"	25	0.18	49064	----
48065	----	x 3-1/2"	25	0.20	49065	----
48066	----	x 4"	25	0.25	49066	----
48067	----	x 4-1/2"	25	0.28	49067	----
48068	----	x 5"	25	0.31	49068	----
48069	----	x 5-1/2"	25	0.34	49069	----
48070	----	x 6"	25	0.39	49070	----
48071	----	x 7"	1	0.41		
48072	----	x 8"	1	0.52	49072	----
48073	----	x 9"	1	0.54		
48074	----	10"	1	0.58	49074	----
48075	----	x 11"	1	0.64		
48076	----	x 12"	1	0.69		

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS

#304



3/4" - 14

3/4" DIAMETER  
SCH 40 WELDED

#316



PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48080	X Close (1-3/8")	25	0.08	49080
48081	x 1-1/2"	25	0.13	49081
48082	x 2"	25	0.14	49082
48083	x 2-1/2"	25	0.17	49083
48084	x 3"	25	0.22	49084
48085	x 3-1/2"	25	0.27	49085
48086	x 4"	25	0.32	49086
48087	x 4-1/2"	25	0.38	49087
48088	x 5"	25	0.40	49088
48089	x 5-1/2"	25	0.42	49089
48090	x 6"	25	0.48	49090
48091	x 7"	1	0.45	
48092	x 8"	1	0.67	49092
48094	x 10"	1	0.94	49094
48096	x 12"	1	1.03	



1" - 11 1/2

1" DIAMETER  
SCH 40 WELDED



PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48100	X Close (1-1/2")	25	0.13	49100
48101	x 2"	25	0.20	49101
48102	x 2-1/2"	25	0.25	49102
48103	x 3"	25	0.33	49103
48104	x 3-1/2"	25	0.40	49104
48105	x 4"	25	0.47	49105
48106	x 4-1/2"	25	0.53	49106
48107	x 5"	25	0.55	49107
48108	x 5-1/2"	25	0.60	49108
48109	x 6"	25	0.71	49109
48110	x 7"	1	0.57	49110
48111	x 8"	1	1.02	49111
48113	x 10"	1	1.16	49113
48115	x 12"	1	1.31	

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

NIPPLES & FITTINGS

# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS



1 1/4" - 11 1/2"



## 1-1/4" DIAMETER SCH 40 WELDED

PART # 304 S.S.		LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
48120	----	X Close (1-5/8")	10	0.17	49120	----
48121	----	x 2"	10	0.23	49121	----
48122	----	x 2-1/2"	10	0.35	49122	----
48123	----	x 3"	10	0.46	49123	----
48124	----	x 3-1/2"	10	0.52	49124	----
48125	----	x 4"	10	0.65	49125	----
48126	----	x 4-1/2"	10	0.53	49126	----
48127	----	x 5"	10	0.60	49127	----
48128	----	x 5-1/2"	10	0.61	49128	----
48129	----	x 6"	10	0.71	49129	----
48131	----	x 8"	1	1.34		
48135	----	x 12"	1	1.54		



1-1/2" - 11 1/2"



## 1-1/2" DIAMETER SCH 40 WELDED

PART # 304 S.S.		LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
48140	----	X Close x 1-3/4"	10	0.25	49140	----
48141	----	x 2"	10	0.32	49141	----
48142	----	x 2-1/2"	10	0.41	49142	----
48143	----	x 3"	10	0.52	49143	----
48144	----	x 3-1/2"	10	0.62	49144	----
48145	----	x 4"	10	0.73	49145	----
48146	----	x 4-1/2"	10	0.86	49146	----
48147	----	x 5"	10	0.95	49147	----
48148	----	x 5-1/2"	10	1.01	49148	----
48149	----	x 6"	10	1.19	49149	----
48151	----	x 8"	1	1.63	49151	----
48152	----	x 9"	1	1.88		
48153	----	x 10"	1	2.28	49153	----
48155	----	x 12"	1	2.43		

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# SCH 40 STAINLESS STEEL NIPPLES

NIPPLES AND FITTINGS



## 2" DIAMETER SCH 40 WELDED



PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48160	X Close (2")	10	0.37	49160
48161	x 2-1/2"	10	0.54	49161
48162	x 3"	10	0.65	49162
48163	x 3-1/2"	10	0.88	49163
48164	x 4"	10	1.02	49164
48165	x 4-1/2"	10	1.16	49165
48166	x 5"	10	1.29	49166
48167	x 5-1/2"	10	1.46	49167
48168	x 6"	10	1.57	49168
48169	x 7"	1	1.92	49169
48170	x 8"	1	2.01	49170
48171	x 9"	1	2.55	
48172	x 10"	1	2.69	
48174	x 12"	1	2.89	

## 2-1/2" DIAMETER SCH 40 WELDED

PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.
48180	X Close (2-1/2")	10	0.64
48181	x 3"		
48187	x 6"	1	2.37
48193	x 12"	1	4.85



## 3" DIAMETER SCH 40 WELDED

PART # 304 S.S.	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.
48200	X Close (2-5/8")	10	0.95	49200
48201	x 3"	10	1.32	49201
48203	x 4"	10	1.66	49203
48205	x 5"	5	1.72	49205
48207	x 6"	5	1.88	49207
48209	x 8"	1	1.91	49209
48213	x 12"	1	2.12	49213



## 4" DIAMETER SCH 40 WELDED

PART # 304 S.S.	LIST PRICE	LENGTH	BOX	APPROX. WT. LBS.	PART # 316 S.S.	LIST PRICE
48220	----	X Close (2-7/8")	8	1.15	49220	----
		x 4"	1	2.98	49223	----
48227	----	x 6"	1	4.10	49234	----
		x 8"	1	5.95	49236	----
		x 12"	1	9.25	49240	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## 304 AND 316 150# SS FITTINGS

NIPPLES AND FITTINGS

# STAINLESS STEEL FITTINGS



### 150# 304 & 316 Stainless Steel Fittings

Our high quality standard pattern 150lb rated stainless steel threaded fittings are manufactured to the highest standards. All stainless steel fittings are monitored by our quality control personnel for strict compliance with applicable standards and specifications.

These stainless steel pipe fittings are excellent for uses that involve chemicals or liquids that may be corrosive. Along with fighting corrosion, a stainless steel pipe fitting will prevent contamination making it useful to many professionals.

- Use with air, water, oil, natural gas, steam
- NPT and FNPT threads conform to ASME B1.20.1
- Maximum Pressure: 300 psi @ 72 F; 150 psi @ 366 F for steam
- Maximum Steam Pressure: 150 psi
- Material Conforms to ASTM A-351. Class 150 Pressure Ratings
- Manufacturing facility is ISO 9001:2008
- 304 Stainless Steel is economically priced, chromium-nickel material that offers very good corrosion resistance. 316 Stainless Steel has higher nickel content and contains molybdenum for even better corrosion resistance.

#### HIGH PRESSURE 1000# BARSTOCK



### 1000#

- Stainless bar stock dimensions conform to MSS SP-114
- NPT threads conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Fittings meet applicable chemical & physical properties

#### HIGH PRESSURE 3000# FORGED

A182 and ANSI/ASME B16.11.



### 3000#

- Use with air, water, oil, natural gas, steam
- Maximum Pressure:
  - Type 304 SS: 2,570 psi @ 72°F;
  - 1,965 psi @ 350°F for steam
  - Type 316 SS: 3,000 psi @ 72°F
  - 2810 psi @ 350°F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 80 thickwall stainless steel

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# 304 AND 316 150# SS FITTINGS

## NIPPLES AND FITTINGS

### 90° ELBOW 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62100	----	1/8"	25	0.06	63100	----
62101	----	1/4"	25	0.06	63101	----
62102	----	3/8"	25	0.11	63102	----
62103	----	1/2"	25	0.13	63103	----
62104	----	3/4"	25	0.20	63104	----
62105	----	1"	10	0.33	63105	----
62106	----	1-1/4"	10	0.55	63106	----
62107	----	1-1/2"	5	0.77	63107	----
62108	----	2"	5	1.10	63108	----
62109	----	2-1/2"	1	2.09	63109	----
62110	----	3"	1	2.84	63110	----
62112	----	4"	1	5.00	63112	----

### 90° STREET ELBOW 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62160	----	1/8"	25	0.04	63160	----
62161	----	1/4"	25	0.07	63161	----
62162	----	3/8"	25	0.09	63162	----
62163	----	1/2"	25	0.15	63163	----
62164	----	3/4"	25	0.24	63164	----
62165	----	1"	10	0.31	63165	----
62166	----	1-1/4"	10	0.51	63166	----
62167	----	1-1/2"	5	0.84	63167	----
62168	----	2"	5	1.26	63168	----
62169	----	3"	1	4.16	63170	----
		4"	1	7.61	63171	----

### 45° ELBOW 304 & 316 150#



PART # 304 S.S.	LIST PRICE	SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62180	----	1/8"	25	0.04	63180	----
62181	----	1/4"	25	0.07	63181	----
62182	----	3/8"	25	0.09	63182	----
62183	----	1/2"	25	0.13	63183	----
62184	----	3/4"	25	0.20	63184	----
62185	----	1"	10	0.33	63185	----
62186	----	1-1/4"	10	0.49	63186	----
62187	----	1-1/2"	5	0.66	63187	----
62188	----	2"	5	1.14	63188	----
62189	----	2-1/2"	1	2.82		
62190	----	3"	1	2.91	63190	----
62191	----	4"	1	5.05	63192	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## 304 AND 316 150# SS FITTINGS

NIPPLES AND FITTINGS

### TEE 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62250	----	1/8"	25	0.07	63250	----
62251	----	1/4"	25	0.07	63251	----
62252	----	3/8"	25	0.11	63252	----
62253	----	1/2"	25	0.20	63253	----
62254	----	3/4"	25	0.29	63254	----
62255	----	1"	10	0.42	63255	----
62256	----	1-1/4"	5	0.66	63256	----
62257	----	1-1/2"	5	0.99	63257	----
62258	----	2"	3	1.43	63258	----
62259	----	2-1/2"	1	1.43		
62260	----	3"	1	3.66	63260	----
		4"	1	7.19	63261	----

### CROSS 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
		1/8"	25	0.06	63390	----
62391	----	1/4"	25	0.09	63391	----
62392	----	3/8"	25	0.13	63392	----
62393	----	1/2"	25	0.29	63393	----
62394	----	3/4"	10	0.44	63394	----
62395	----	1"	10	0.74	63395	----
62396	----	1-1/4"	5	1.25	63396	----
62397	----	1-1/2"	5	1.53	63397	----
62398	----	2"	1	2.28	63398	----
		3"	1	5.46	63400	----
		4"	1	9.41	63401	----

### HEX NIPPLE 304 & 316 150#



PART # 304 S.S.	LIST PRICE	SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	LIST PRICE
62720	----	1/8"	1	0.02	63720	----
62721	----	1/4"	1	0.04	63721	----
62722	----	3/8"	1	0.07	63722	----
62723	----	1/2"	1	0.11	63723	----
62724	----	3/4"	1	0.18	63724	----
62725	----	1"	1	0.22	63725	----
62726	----	1-1/4"	1	0.37	63726	----
62727	----	1-1/2"	1	0.46	63727	----
62728	----	2"	1	0.61	63728	----

### REDUCING HEX NIPPLE 304 & 316 150#



PART # 304 S.S.	LIST PRICE	SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62740	----	1/4" x 1/8"	1	0.04	63740	----
62741	----	3/8" x 1/8"	1	0.07	63741	----
62742	----	3/8" x 1/4"	1	0.07	63742	----
62744	----	1/2" x 1/4"	1	0.09	63744	----
62745	----	1/2" x 3/8"	1	0.11	63745	----
62747	----	3/4" x 1/4"	1	0.15	63747	----
62748	----	3/4" x 3/8"	1	0.15	63748	----
62749	----	3/4" x 1/2"	1	0.15	63749	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 304 AND 316 150# SS FITTINGS

NIPPLES AND FITTINGS

## COUPLING 304 & 316 150#



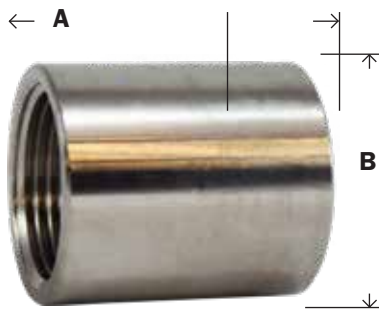
PART # 304 S.S.		SIZE*	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62410	----	1/8"	25	0.03	63410	----
62411	----	1/4"	25	0.06	63411	----
62412	----	3/8"	25	0.07	63412	----
62413	----	1/2"	25	0.13	63413	----
62414	----	3/4"	25	0.18	63414	----
62415	----	1"	25	0.24	63415	----
62416	----	1-1/4"	10	0.44	63416	----
62417	----	1-1/2"	10	0.51	63417	----
62418	----	2"	5	0.79	63418	----
62419	----	2-1/2"	1	1.28	63419	----
62420	----	3"	1	1.87	63420	----
62421	----	4"	1	2.80	63421	----

## REDUCING COUPLING 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62430	----	1/4" x 1/8"	25	0.04	63430	----
62431	----	3/8" x 1/8"	25	0.04	63431	----
62432	----	3/8" x 1/4"	25	0.04	63432	----
62433	----	1/2" x 1/8"	25	0.09	63433	----
62434	----	1/2" x 1/4"	25	0.09	63434	----
62435	----	1/2" x 3/8"	25	0.09	63435	----
62455	----	3/4" x 1/8"	25	0.13	63455	----
62436	----	3/4" x 1/4"	25	0.11	63436	----
62437	----	3/4" x 3/8"	25	0.13	63437	----
62438	----	3/4" x 1/2"	25	0.15	63438	----
		1" x 1/4"	25	0.25	63459	----
62440	----	1" x 3/8"	25	0.22	63440	----
62441	----	1" x 1/2"	25	0.24	63441	----
62442	----	1" x 3/4"	25	0.24	63442	----
62445	----	1-1/4" x 3/4"	10	0.33	63445	----
62446	----	1-1/4" x 1"	10	0.35	63446	----
62447	----	1-1/2" x 1/2"	10	0.40	63447	----
62448	----	1-1/2" x 3/4"	10	0.42	63448	----
62449	----	1-1/2" x 1"	10	0.44	63449	----
62450	----	1-1/2" x 1-1/4"	10	0.46	63450	----
62451	----	2" x 3/4"				
62452	----	2" x 1"	5	0.57	63452	----
62453	----	2" x 1-1/4"	5	0.62	63453	----
62454	----	2" x 1-1/2"	5	0.62	63454	----
62428	----	3" x 1"	1	1.82		
62456	----	3" x 2"	1	2.25		

## OD MACHINED COUPLING 304 & 316 150#



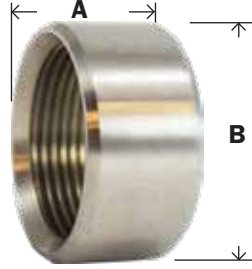
PART # 304 S.S.	LIST PRICE	SIZE	A	B	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62410B	----	1/8"	0.76	0.56	25	0.04	63410B	----
62411B	----	1/4"	0.94	0.71	25	0.04	63411B	----
62412B	----	3/8"	0.98	0.84	25	0.07	63412B	----
62413B	----	1/2"	1.33	1.01	25	0.09	63413B	----
62414B	----	3/4"	1.41	1.27	25	0.16	63414B	----
62415B	----	1"	1.69	1.54	10	0.21	63415B	----
62416B	----	1-1/4"	1.93	1.90	10	0.31	63416B	----
62417B	----	1-1/2"	1.93	2.16	5	0.41	63417B	----
62418B	----	2"	1.96	2.66	5	0.68	63418B	----
62420B	----	3"	3.23	3.76	1			

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 304 AND 316 150# SS FITTINGS

## NIPPLES AND FITTINGS

### HALF COUPLING 304 & 316 150#



PART # 304 S.S.	LIST	SIZE	A	B	BOX	APPROX. WT. LBS.	PART # 316 S.S.
62770		1/8"					
62771	----	1/4"	0.39	0.70	25	0.02	63771
62772	----	3/8"	0.45	0.82	25	0.02	63772
62773	----	1/2"	0.57	1.02	25	0.09	63773
62774	----	3/4"	0.67	1.22	25	0.11	63774
62775	----	1"	0.79	1.47	25	0.13	63775
62776	----	1-1/4"	0.86	1.88	10	0.24	63776
62777	----	1-1/2"	0.94	2.10	10	0.26	63777
62778	----	2"	1.06	2.60	5	0.44	63778

### UNION 304 & 316 150#

• Stainless Steel Seat



PART # 304 S.S.	LIST PRICE	SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	LIST PRICE
62600	----	1/8"	25	0.09	63600	----
62601	----	1/4"	25	0.13	63601	----
62602	----	3/8"	25	0.22	63602	----
62603	----	1/2"	25	0.26	63603	----
62604	----	3/4"	25	0.46	63604	----
62605	----	1"	10	0.60	63605	----
62606	----	1-1/4"	5	0.90	63606	----
62607	----	1-1/2"	5	1.10	63607	----
62608	----	2"	1	1.81	63608	----
62610	----	3"	1	3.40	63610	----

### CAP - CAST 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.
62470	----	1/8"	25	0.02	63470
62471	----	1/4"	25	0.02	63471
62472	----	3/8"	25	0.04	63472
62473	----	1/2"	25	0.07	63473
62474	----	3/4"	25	0.11	63474
62475	----	1"	10	0.18	63475
62476	----	1-1/4"	10	0.29	63476
62477	----	1-1/2"	10	0.40	63477
62478	----	2"	10	0.60	63478
62480	----	3"	1	1.28	63480
62481	----	4"	1	1.54	

### HEX CAP - BARSTOCK 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.
62075	----	1/8"	25	0.04	63075
62076	----	1/4"	25	0.09	63076
62077	----	3/8"	25	0.11	63077
62078	----	1/2"	25	0.13	63078
62079	----	3/4"	25	0.22	63079
62080	----	1"	10	0.22	63080
62081	----	1-1/4"	10	0.29	63081
62082	----	1-1/2"	5	0.40	63082
62083	----	2"	5	0.49	63083

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 304 AND 316 150# SS FITTINGS

## NIPPLES AND FITTINGS

### HEX BUSHING 304 & 316 150#



PART # 304 S.S.		SIZE M X F	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62500	----	1/4" x 1/8"	25	0.04	63500	----
62501	----	3/8" x 1/8"	25	0.04	63501	----
62502	----	3/8" x 1/4"	25	0.04	63502	----
62503	----	1/2" x 1/8"	25	0.09		
62504	----	1/2" x 1/4"	25	0.09	63504	----
62505	----	1/2" x 3/8"	25	0.11	63505	----
62506	----	3/4" x 1/8"	25	0.13	63506	----
62507	----	3/4" x 1/4"	25	0.15	63507	----
62508	----	3/4" x 3/8"	25	0.15	63508	----
62509	----	3/4" x 1/2"	25	0.15	63509	----
62557	----	1" x 1/8"	25	0.27		
62510	----	1" x 1/4"	25	0.22	63510	----
62511	----	1" x 3/8"	25	0.24	63511	----
62512	----	1" x 1/2"	25	0.24	63512	----
62513	----	1" x 3/4"	25	0.24	63513	----
62515	----	1-1/4" x 3/8"	25	0.37		
62516	----	1-1/4" x 1/2"	25	0.37	63516	----
62517	----	1-1/4" x 3/4"	25	0.37	63517	----
62518	----	1-1/4" x 1"	25	0.37	63518	----
62521	----	1-1/2" x 1/2"	25	0.44	63521	----
62522	----	1-1/2" x 3/4"	25	0.46	63522	----
62532	----	1-1/2" x 1"	25	0.49	63523	----
62524	----	1-1/2" x 1-1/4"	25	0.46	63524	----
62559	----	2" x 1/4"	10	0.95		
62527	----	2" x 1/2"	10	0.66	63527	----
62528	----	2" x 3/4"	10	0.66	63528	----
62529	----	2" x 1"	10	0.66	63529	----
62530	----	2" x 1-1/4"	10	0.68	63530	----
62531	----	2" x 1-1/2"	10	0.68	63531	----
62536	----	2-1/2" x 1"	5	1.70		
62534	----	2-1/2" x 1-1/2"	5	1.23	63534	----
62535	----	2-1/2" x 2"	5	1.21	63535	----
		3" x 1"	5	2.20	63550	----
62537	----	3" x 1-1/2"	5	1.97	63537	----
62538	----	3" x 2"	5	1.72	63538	----
62539	----	3" x 2-1/2"	5	1.81		
		4" x 1-1/2"	5	3.92	63540	----
		4" x 2"	1	3.72	63541	----
62543	----	4" x 3"	1	2.43	63543	----

• SEE PAGE 13 FOR STAINLESS STEEL BULKHEAD FITTINGS

• SEE PAGE 268 FOR STAINLESS STEEL:

- BARBED FOR PLASTIC PIPE
- WELL COUPLINGS
- MERCHANT COUPLINGS

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# 304 AND 316 150# SS FITTINGS

## NIPPLES AND FITTINGS

### HEX LOCKNUT

#### 304 & 316 150#

• Straight Thread



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62700	----	1/8"	25	0.02		
62701	----	1/4"	25	0.05	63701	----
62702	----	3/8"	25	0.06	63702	----
62703	----	1/2"	25	0.07	63703	----
62704	----	3/4"	25	0.11	63704	----
62705	----	1"	25	0.15	63705	----
62706	----	1-1/4"	25	0.22	63706	----
62707	----	1-1/2"	25	0.29	63707	----
62708	----	2"	10	0.35	63708	----

### CORED SQUARE HEAD PLUG

#### 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62670	----	1/8"	25	0.02	63670	----
62671	----	1/4"	25	0.03	63671	----
62672	----	3/8"	25	0.04	63672	----
62653	----	1/2"	25	0.06	63653	----
62654	----	3/4"	25	0.13	63654	----
62655	----	1"	25	0.20	63655	----
62656	----	1-1/4"	25	0.32	63656	----
62657	----	1-1/2"	10	0.41	63657	----
62658	----	2"	10	0.65	63658	----
62659	----	2-1/2"	1	1.04		
62660	----	3"	1	0.88		

### CORED HEX HEAD PLUG

#### 304 & 316 150#



PART # 304 S.S.		SIZE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
62630	----	1/8"	25	0.02	63630	----
62631	----	1/4"	25	0.02	63631	----
62632	----	3/8"	25	0.04	63632	----
62633	----	1/2"	25	0.07	63633	----
62634	----	3/4"	25	0.11	63634	----
62635	----	1"	25	0.20	63635	----
62636	----	1-1/4"	25	0.31	63636	----
62637	----	1-1/2"	10	0.44	63637	----
62638	----	2"	10	0.65	63638	----
		4"	1	2.77	63641	----

### HOSE NIPPLE

#### 304 & 316 150#



HOSE BARB X MALE PIPE

PART # 304 S.S.		HOSE I.D. X MALE PIPE	BOX	APPROX. WT. LBS.	PART # 316 S.S.	
73951	----	1/4"	1	0.04	973951	----
73952	----	3/8"	1	0.07	973952	----
73953	----	1/2"	1	0.13	973953	----
73954	----	3/4"	1	0.20	973954	----
73955	----	1"	1	0.33	973955	----
73956	----	1-1/4"	1	0.47	973956	----
73957	----	1-1/2"	1	0.67	973957	----
73958	----	2"	1	0.88	973958	----
73959	----	2-1/2"	1	1.45	973959	----
73960	----	3"	1	1.94	973990	----
73961	----	4"	1	3.57	973991	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# 304 AND 316 150# SS FITTINGS

NIPPLES AND FITTINGS

## REDUCING HOSE NIPPLE

304 150#



HOSE BARB X MALE PIPE

PART # 304 S.S	HOSE I.D. X MALE PIPE	BOX	APPROX. WT. LBS.	
73970	1/4" x 1/8"	1	0.04	----
73971	3/8" x 1/4"	1	0.07	----
73972	1/2" x 3/8"	1	0.13	----
73973	1/2" x 1/4"	1	0.13	----
73974	3/4" x 1/2"	1	0.20	----
73975	1" x 3/4"	1	0.33	----
73976	1" x 1/2"	1	0.33	----
73977	1-1/4" x 1"	1	0.46	----
73979	1-1/2" x 1-1/4"	1	0.66	----
73980	1-1/2" x 1"	1	0.66	----
73981	2" x 1-1/2"	1	0.88	----
73982	2" x 1-1/4"	1	0.88	----

## SOLID HEX HEAD PLUG

316 150#



PART # 316 S.S	SIZE	BOX	APPROX. WT. LBS.	
63660	1/8"	25	0.04	----
63661	1/4"	25	0.06	----
63662	3/8"	25	0.08	----
63663	1/2"	25	0.12	----
63664	3/4"	25	0.15	----
63665	1"	25	0.24	----

## HEX SOCKET PLUG - BARSTOCK

316 150#



PART # 316 S.S	SIZE	BOX	APPROX. WT. LBS.	
63759	1/16"	1	0.03	----
63760	1/8 "	1	0.05	----
63761	1/4 "	1	0.07	----
63762	3/8 "	1	0.10	----
63763	1/2 "	1	0.14	----
63764	3/4 "	1	0.21	----
63765	1"	1	0.24	----

## SOLID SQUARE HEAD PLUG

316 150#



PART # 316 S.S	SIZE	BOX	APPROX. WT. LBS.	
63680	1/8"	25	0.04	----
63681	1/4"	25	0.04	----
63682	3/8"	25	0.05	----
63683	1/2"	25	0.06	----
63684	3/4"	25	0.12	----


**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

NIPPLES & FITTINGS

**BLACK AND GALVANIZED SCH 40**

NIPPLES AND FITTINGS

**BLACK AND GALVANIZED STEEL NIPPLES****Product Specifications**

Welded steel pipe nipples both galvanized and black in diameters ranging from 1/8" up to 4" in lengths from close to 12" and cut-pipe up to 120" -200°-150° Temp Rating.

**Technical Specifications**

**Standards:** Product complies with ASTM A-53, A-733 and ANSI B1.20.1 for threading, dimensions and pipe specifications.

**Pipe:** Complies with ASTM A-53 mill tested schedule 40 and 80 for both Welded & Seamless Meets ANSI B36.1.

**Galvanized:** Zinc coating applied by hot dipped. Galvanized complying with ASTM A-123, NSF approved, RoHS compliant.

**Black:** Protected against oxidation with varnish coating.

**Cutting Procedure:** All pipe is roller cut. A visual inspection of seams, excessive galvanizing, mid-welds, poor galvanizing, bends, roundness, under and over weight of the pipe is made at the time it is cut. This is done for every length of pipe. Pipe lengths are cut to a tolerance of + or - 1/16" of the actual length.

**Threading Procedure:**

All pipe is chaser thread cut to American Standard Tapered Pipe Thread standards. This is 3/4" taper per foot. Pipe is visually inspected for roundness of threads and other visual faults as it is removed from the threading machine.

**SCHEDULE 80 XXS SEAMLESS**

- ASTM A106 Grade B Seamless Pipe
- ASTM A 53
- WVN 351
- Standard NPT Tapered Pipe Threads as per ANSI B 1.20.1 Specification

**XXS SEAMLESS**

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED SCH 40

NIPPLES AND FITTINGS

1/8" - 27

Wall Thickness 0.068 - GradeB - Test Pressure  
700 PSI - Thread Length 0.39



**1/8" DIAMETER  
SCH 40 WELDED**



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56001	----	X Close (3/4")	50/600	0.02	57001	----
56002	----	x 1-1/2"	50/600	0.03	57002	----
56003	----	x 2"	50/500	0.04	57003	----
56004	----	x 2-1/2"	100/400	0.06	57004	----
56005	----	x 3"	50/300	0.07	57005	----
56006	----	x 3-1/2"	50/300	0.08	57006	----
56007	----	x 4"	50/300	0.09	57007	----
56008	----	x 4-1/2"	50/300	0.10	57008	----
56009	----	x 5"	50/300	0.11	57009	----
56010	----	x 5-1/2"	50/300	0.12	57010	----
56011	----	x 6"	50/300	0.13	57011	----
56012	----	x 7"	50/300	0.15	57012	----
56013	----	x 8"	50/300	0.18	57013	----
56014	----	x 9"	50/300	0.21	57014	----
56015	----	x 10"	50/300	0.25	57015	----
56017	----	x 12"	50/300	0.29	57017	----

1/4"-18

Wall Thickness 0.068 - GradeB - Test Pressure  
700 PSI - Thread Length 0.39



**1/4" DIAMETER  
SCH 40 WELDED**



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56020	----	X Close (7/8")	50/600	0.04	57020	----
56021	----	x 1-1/2"	125/500	0.06	57021	----
56022	----	x 2"	125/500	0.06	57022	----
56023	----	x 2-1/2"	100/400	0.08	57023	----
56024	----	x 3"	50/300	0.10	57024	----
56025	----	x 3-1/2"	50/300	0.12	57025	----
56026	----	x 4"	50/300	0.14	57026	----
56027	----	x 4-1/2"	50/300	0.17	57027	----
56028	----	x 5"	50/300	0.19	57028	----
56029	----	x 5-1/2"	50/300	0.21	57029	----
56030	----	x 6"	50/300	0.23	57030	----
56031	----	x 7"	50/100	0.27	57031	----
56032	----	x 8"	50/100	0.31	57032	----
56033	----	x 9"	50/100	0.35	57033	----
56034	----	x 10"	50/100	0.40	57034	----
56035	----	x 11"	50/100	0.44	57035	----
56036	----	x 12"	50/100	0.48	57036	----
56038	----	x 18"	50/100	0.54		

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



NIPPLES & FITTINGS

# BLACK AND GALVANIZED SCH 40

## NIPPLES AND FITTINGS



### 3/8" DIAMETER SCH 40 WELDED

Wall Thickness 0.091 - Grade B  
- Test Pressure 700 PSI - Thread  
Length 0.6



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56040	----	X Close (1")	50/600	0.05	57040	----
56041	----	x 1-1/2"	125/500	0.07	57041	----
56042	----	x 2"	125/500	0.08	57042	----
56043	----	x 2-1/2"	100/400	0.11	57043	----
56044	----	x 3"	50/300	0.13	57044	----
56045	----	x 3-1/2"	50/300	0.16	57045	----
56046	----	x 4"	50/300	0.19	57046	----
56047	----	x 4-1/2"	50/200	0.21	57047	----
56048	----	x 5"	50/150	0.24	57048	----
56049	----	x 5-1/2"	50/150	0.27	57049	----
56050	----	x 6"	50/100	0.29	57050	----
56051	----	x 7"	50/100	0.35	57051	----
56052	----	x 8"	50/100	0.40	57052	----
56053	----	x 9"	50/100	0.45	57053	----
56054	----	x 10"	50/100	0.51	57054	----
56055	----	x 11"	50/100	0.56	57055	----
56056	----	x 12"	50/100	0.62	57056	----
56430	----	x 18"	5/10	0.71	57430	----
		x 24"	1/1	1.02	57431	----



### 1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.109 -  
Grade B - Test Pressure 700  
PSI - Thread Length 0.78



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56060	----	X Close (1-1/8")	50/600	0.08	57060	----
56061	----	x 1-1/2"	125/500	0.08	57061	----
56062	----	x 2"	125/500	0.12	57062	----
56063	----	x 2-1/2"	100/400	0.15	57063	----
56064	----	x 3"	50/300	0.19	57064	----
56065	----	x 3-1/2"	50/300	0.23	57065	----
56066	----	x 4"	50/300	0.27	57066	----
56067	----	x 4-1/2"	50/200	0.30	57067	----
56068	----	x 5"	50/150	0.34	57068	----
56069	----	x 5-1/2"	50/150	0.38	57069	----
56070	----	x 6"	50/100	0.42	57070	----
56071	----	x 7"	50/100	0.49	57071	----
56072	----	x 8"	50/100	0.57	57072	----
56073	----	x 9"	50/100	0.65	57073	----
56074	----	x 10"	50/100	0.72	57074	----
56075	----	x 11"	50/100	0.80	57075	----
56076	----	x 12"	40/80	0.87	57076	----
56240	----	x 18"	1/3	1.29	57240	----
56241	----	x 24"	1/3	1.74	57241	----
56242	----	x 30"	1/3	2.16	57242	----
56243	----	x 36"	1/3	2.61	57243	----
56244	----	x 42"	1/3	3.03	57244	----
56245	----	x 48"	1/3	3.48	57245	----
56246	----	x 60"	1/3	4.35	57246	----
56247	----	x 72"	1/3	5.22	57247	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



NIPPLES & FITTINGS



# BLACK AND GALVANIZED SCH 40

NIPPLES AND FITTINGS

## 3/4" DIAMETER SCH 40 WELDED



Wall Thickness 0.113 -  
Grade B - Test Pressure  
700 PSI - Thread Length  
0.79



Part # Galv		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56080	----	X Close (1-3/8")	50/300	0.13	57080	----
56081	----	x 1-1/2"	125/250	0.10	57081	----
56082	----	x 2"	125/250	0.15	57082	----
56083	----	x 2-1/2"	50/250	0.20	57083	----
56084	----	x 3"	50/200	0.24	57084	----
56085	----	x 3-1/2"	50/150	0.29	57085	----
56086	----	x 4"	50/150	0.34	57086	----
56087	----	x 4-1/2"	50/150	0.39	57087	----
56088	----	x 5"	50/150	0.43	57088	----
56089	----	x 5-1/2"	60/120	0.48	57089	----
56090	----	x 6"	50/100	0.53	57090	----
56091	----	x 7"	50/100	0.63	57091	----
56092	----	x 8"	50/100	0.72	57092	----
56093	----	x 9"	40/80	0.82	57093	----
56094	----	x 10"	40/80	0.91	57094	----
56095	----	x 11"	30/60	1.01	57095	----
56096	----	x 12"	30/60	1.10	57096	----
56250	----	x 18"	1/3	1.63	57250	----
56251	----	x 24"	1/3	2.20	57251	----
56252	----	x 30"	1/3	2.73	57252	----
56253	----	x 36"	1/3	3.30	57253	----
56254	----	x 42"	1/3	3.83	57254	----
56255	----	x 48"	1/3	4.40	57255	----
56256	----	x 60"	1/3	5.50	57256	----
56257	----	x 72"	1/3	6.60	57257	----

I hated every minute of training, but I said, 'Don't quit. Suffer now and live the rest of your life as a champion.'

- Muhammad Ali

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED SCH 40

## NIPPLES AND FITTINGS



### 1" DIAMETER SCH 40 WELDED

Wall Thickness 0.133 - Grade  
B - Test Pressure 700 PSI -  
Thread Length 0.98



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56100	----	X Close (1-1/2")	50/200	0.16	57100	----
56101	----	x 2"	50/150	0.23	57101	----
56102	----	x 2-1/2"	50/150	0.29	57102	----
56103	----	x 3"	50/100	0.36	57103	----
56104	----	x 3-1/2"	50/100	0.43	57104	----
56105	----	x 4"	50/100	0.50	57105	----
56106	----	x 4-1/2"	50/100	0.56	57106	----
56107	----	x 5"	50/100	0.63	57107	----
56108	----	x 5-1/2"	50/100	0.70	57108	----
56109	----	x 6"	40/80	0.77	57109	----
56110	----	x 7"	25/50	0.90	57110	----
56111	----	x 8"	25/50	1.03	57111	----
56112	----	x 9"	15/30	1.17	57112	----
56113	----	x 10"	15/30	1.30	57113	----
56114	----	x 11"	15/30	1.44	57114	----
56115	----	x 12"	15/30	1.57	57115	----
56260	----	x 18"	1/3	2.34	57260	----
56261	----	x 24"	1/3	3.14	57261	----
56262	----	x 30"	1/3	3.91	57262	----
56263	----	x 36"	1/3	4.71	57263	----
56264	----	x 42"	1/3	5.48	57264	----
56265	----	x 48"	1/3	6.28	57265	----
56266	----	x 60"	1/3	7.85	57266	----
56267	----	x 72"	1/3	9.42	57267	----

Put your heart, mind, and soul into even your  
smallest acts. This is the secret of success.

- Swami Sivananda

 **WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED SCH 40

## NIPPLES AND FITTINGS



### 1-1/4" DIAMETER SCH 40 WELDED

Wall Thickness 0.14 - Grade  
B - Test Pressure 1300 PSI -  
Thread Length 1.01



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56120	----	X Close (1-5/8")	50/100	0.25	57120	----
56121	----	x 2"	50/100	0.32	57121	----
56122	----	x 2-1/2"	50/100	0.41	57122	----
56123	----	x 3"	50/100	0.50	57123	----
56124	----	x 3-1/2"	30/60	0.60	57124	----
56125	----	x 4"	30/60	0.69	57125	----
56126	----	x 4-1/2"	30/60	0.78	57126	----
56127	----	x 5"	25/50	0.87	57127	----
56128	----	x 5-1/2"	25/50	0.96	57128	----
56129	----	x 6"	25/50	1.06	57129	----
56130	----	x 7"	15/30	1.24	57130	----
56131	----	x 8"	15/30	1.42	57131	----
56132	----	x 9"	15/30	1.61	57132	----
56133	----	x 10"	15/30	1.79	57133	----
56134	----	x 11"	10/20	1.97	57134	----
56135	----	x 12"	10/20	2.16	57135	----
56270	----	x 18"	1/3	3.22	57270	----
56271	----	x 24"	1/3	4.32	57271	----
56272	----	x 30"	1/3	3.22	57272	----
56273	----	x 36"	1/3	6.48	57273	----
56275	----	x 48"			57275	----



### 1-1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.145 - Grade  
B - Test Pressure 1300 PSI -  
Thread Length 1.03



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56140	----	X Close (1-3/4")	50/100	0.31	57140	----
56141	----	x 2"	40/80	0.37	57141	----
56142	----	x 2-1/2"	40/80	0.47	57142	----
56143	----	x 3"	40/80	0.58	57143	----
56144	----	x 3-1/2"	25/50	0.68	57144	----
56145	----	x 4"	25/50	0.78	57145	----
56146	----	x 4-1/2"	25/50	0.89	57146	----
56147	----	x 5"	25/50	1.10	57147	----
56148	----	x 5-1/2"	20/40	1.10	57148	----
56149	----	x 6"	15/30	1.20	57149	----
56150	----	x 7"	15/30	1.41	57150	----
56151	----	x 8"	15/30	1.62	57151	----
56152	----	x 9"	15/30	1.83	57152	----
56153	----	x 10"	1/20	2.04	57153	----
56154	----	x 11"	1/20	2.25	57154	----
56155	----	x 12"	1/20	2.46	57155	----
56280	----	x 18"	1/3	3.66	57280	----
56281	----	x 24"	1/3	4.92	57281	----
56282	----	x 30"	1/3	6.12	57282	----
56283	----	x 36"	1/3	7.38	57283	----
56285	----	x 48"	1/3	9.84	57285	----
		x 60"			57286	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED SCH 40

## NIPPLES AND FITTINGS



### 2" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade  
B - Test Pressure 2500 PSI -  
Thread Length 1.06



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56160	----	X Close (2")	40/80	0.55	57160	----
56161	----	x 2-1/2"	25/50	0.70	57161	----
56162	----	x 3"	25/50	0.86	57162	----
56163	----	x 3-1/2"	1/30	1.01	57163	----
56164	----	x 4"	1/30	1.16	57164	----
56165	----	x 4-1/2"	1/25	1.31	57165	----
56166	----	x 5"	1/30	1.47	57166	----
56167	----	x 5-1/2"	1/30	1.62	57167	----
56168	----	x 6"	1/20	1.77	57168	----
56169	----	x 7"	1/20	2.08	57169	----
56170	----	x 8"	1/20	2.39	57170	----
56171	----	x 9"	1/10	2.70	57171	----
56172	----	x 10"	1/10	3.00	57172	----
56173	----	x 11"	1/10	3.31	57173	----
56174	----	x 12"	1/10	3.62	57174	----
56290	----	x 18"	1/3	5.39	57290	----
56291	----	x 24"	1/3	5.26	57291	----
56292	----	x 30"	1/3	7.03	57292	----
56293	----	x 36"	1/3	10.86	57293	----
56294	----	x 42"	1/3	12.63	57294	----
56295	----	x 48"	1/3	14.48	57295	----
56296	----	x 60"	1/3	18.10	57296	----
56297	----	x 72"	1/3	18.10	57297	----



### 2-1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.203 - Grade  
B - Test Pressure 2500 PSI -  
Thread Length 1.57



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56180	----	X Close (2-1/2")	1/20	1.09	57180	----
56181	----	x 3"	1/20	1.33	57181	----
56182	----	x 3-1/2"	1/20	1.57	57182	----
56183	----	x 4"	1/20	1.82	57183	----
56184	----	x 4-1/2"	1/20	2.06	57184	----
56185	----	x 5"	1/20	2.30	57185	----
56186	----	x 5-1/2"	1/10	2.54	57186	----
56187	----	x 6"	1/10	2.78	57187	----
56188	----	x 7"	1/10	3.27	57188	----
56189	----	x 8"	1/10	3.75	57189	----
56190	----	x 9"	1/10	4.24	57190	----
56191	----	x 10"	1/8	4.72	57191	----
56192	----	x 11"	1/8	5.21	57192	----
56193	----	x 12"	1/8	5.69	57193	----


**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED SCH 40

## NIPPLES AND FITTINGS



### 3" DIAMETER SCH 40 WELDED

Wall Thickness 0.216 - Grade  
B - Test Pressure 2500 PSI -  
Thread Length 1.64



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56200	----	X Close (2-5/8")	1/20	1.52	57200	----
56201	----	x 3"	1/20	1.76	57201	----
56202	----	x 3-1/2"	1/10	2.08	57202	----
56203	----	x 4"	1/10	2.39	57203	----
56204	----	x 4-1/2"	1/10	2.71	57204	----
56205	----	x 5"	1/10	3.03	57205	----
56206	----	x 5-1/2"	1/10	3.35	57206	----
56207	----	x 6"	1/10	3.66	57207	----
56208	----	x 7"	1/8	4.30	57208	----
56209	----	x 8"	1/8	4.93	57209	----
56210	----	x 9"	1/8	5.57	57210	----
56211	----	x 10"	1/5	6.20	57211	----
56212	----	x 11"	1/5	7.20	57212	----
56213	----	x 12"	1/5	7.47	57213	----
		x 24"	1	14.94	57311	----



### 4" DIAMETER SCH 40 WELDED

Wall Thickness 0.237 - Grade  
B - Test Pressure 2210 PSI -  
Thread Length 1.74



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56220	----	X Close (2-7/8")	1/10	2.00	57220	----
56221	----	3-1/2"	1/8	2.21		
56223	----	x 4"	1/8	3.41	57223	----
56224	----	x 4-1/2"	1/6	3.86	57224	----
56225	----	x 5"	1/6	4.31	57225	----
56226	----	x 5-1/2"	1/6	4.76	57226	----
56227	----	x 6"	1/6	5.21	57227	----
56330	----	x 7"	1/5	6.48	57330	----
56229	----	x 8"	1/5	7.01	57229	----
56331	----	x 9"	1/5	7.54	57331	----
56332	----	x 10"	1/5	8.14	57332	----
56228	----	x 12"	1/4	8.54	57228	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# NIPPLES AND ASSORTMENTS

## NIPPLES AND FITTINGS



### 6" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade  
B - Test Pressure 2500 PSI -  
Thread Length 1.06



PART # GALV		LENGTH	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
56300	----	X Close (3-1/8")	1/1	3.80	57300	----
		x 4"	1/1	5.30	57304	----
		x 6"	1/1	8.30	57301	----
		x 8"	1/1	11.30	57305	----
		x 10"			57306	----
		x 12"	1/1	17.20	57308	----



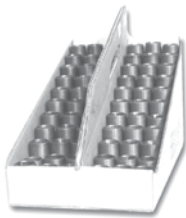
### 8" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade  
B - Test Pressure 2500 PSI -  
Thread Length 1.06

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
57320	X Close (3-1/8")	1/1	5.80	----
57322	x 6"	1/1	6.50	----
57324	x 8"	1/1	11.30	----
57326	x 10"	1/1	19.00	----
57328	x 12"	1/1	28.55	----

## STEEL NIPPLE ASSORTMENTS

### B "6" ASSORTMENTS



BLACK		LENGTH											WT. LBS.	TOTAL PIECES			
		1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"						
973567	1/2"	6	6	6	6	6	6	6	6	6	6	6	6	6	20	66	----
973568	3/4"	6	6	6	6	6	6	6	6	6	6	6	6	6	27	66	----
973569	1"	6	6	6	6	6	6	6	6	6	6	6	6	6	34	60	----
GALV.		LENGTH											WT. LBS.	TOTAL PIECES			
		1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"						
973667	1/2"	6	6	6	6	6	6	6	6	6	6	6	6	6	20	66	----
973668	3/4"	6	6	6	6	6	6	6	6	6	6	6	6	6	27	66	----
973669	1"	6	6	6	6	6	6	6	6	6	6	6	6	6	34	60	----

### STEEL TOTE TRAYS



PART #	SIZE	CAPACITY	
990781	1/2"	77pcs	----
990782	3/4"	66pcs	----
990783	1"	50pcs	----
990786	1-1/4"	40pcs	----
990784	1-1/2"	30pcs	----
990785	2"	27pcs	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK SCH 80 SEAMLESS

NIPPLES AND FITTINGS

## EXTRA HEAVY SEAMLESS STEEL PIPE NIPPLES

1/8" - 27

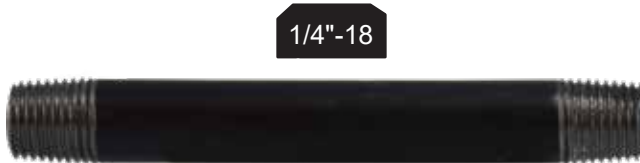


### 1/8" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.094 - Grade B - Test Pressure 850 PSI - Thread Length 0.39

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59001SMLS	x Close	40/480	0.02	----
59002SMLS	x 1-1/2"	40/480	0.03	----
59003SMLS	x 2"	100/400	0.05	----
59004SMLS	2-1/2"	100/400	0.06	----
59005SMLS	x 3"	40/240	0.08	----
59006SMLS	x 3-1/2"	40/240	0.09	----
59007SMLS	x 4"	40/240	0.11	----
59009SMLS	x 5"	40/120	0.12	----
59010SMLS	x 5-1/2"	40/120	0.13	----
59011SMLS	x 6"	40/80	0.16	----

1/4" - 18



### 1/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.119 - Grade B - Test Pressure 850 PSI - Thread Length 0.59

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59020SMLS	x Close (7/8")	40 / 480	0.03	----
59021SMLS	x 1-1/2"	100 / 400	0.06	----
59022SMLS	x 2"	100 / 400	0.08	----
59023SMLS	x 2-1/2"	80 / 320	0.10	----
59024SMLS	x 3"	40 / 240	0.12	----
59025SMLS	x 3-1/2"	40 / 240	0.15	----
59026SMLS	x 4"	40 / 240	0.17	----
59027SMLS	x 4-1/2"	40 / 120	0.19	----
59028SMLS	x 5"	40 / 120	0.21	----
59029SMLS	x 5-1/2"	40 / 80	0.24	----
59030SMLS	x 6"	40 / 80	0.26	----
59031SMLS	x 7"	40 / 80	0.30	----
59032SMLS	x 8"	40 / 80	0.35	----
59033SMLS	x 9"	40 / 80	0.39	----
59034SMLS	x 10"	40 / 80	0.44	----
59036SMLS	x 12"	40 / 80	0.53	----

 **WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK SCH 80 SEAMLESS

NIPPLES AND FITTINGS

3/8"-18



## 3/8" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.126 - Grade B - Test Pressure 850 PSI - Thread Length 0.6

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59040SMLS	X Close (3/8")	40 / 480	0.05	----
59041SMLS	x 1-1/2"	100 / 400	0.08	----
59042SMLS	x 2"	100 / 400	0.11	----
59043SMLS	x 2-1/2"	80 / 320	0.14	----
59044SMLS	x 3"	40 / 240	0.17	----
59045SMLS	x 3-1/2"	40 / 240	0.20	----
59046SMLS	x 4"	40 / 240	0.23	----
59047SMLS	x 4-1/2"	40 / 160	0.26	----
59048SMLS	x 5"	40 / 120	0.29	----
59049SMLS	x 5-1/2"	40 / 120	0.32	----
59050SMLS	x 6"	40 / 80	0.35	----
59052SMLS	x 8"	40/80	0.47	----
59054SMLS	x 10"	40/80	0.53	----
59056SMLS	x 12"	40/80	0.65	----

1/2" - 14



## 1/2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.147 - Grade B - Test Pressure 850 PSI - Thread Length 0.78

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59060SMLS	X Close (1-1/8")	40 / 480	0.07	----
59061SMLS	x 1-1/2"	100 / 400	0.11	----
59062SMLS	x 2"	100 / 400	0.15	----
59063SMLS	x 2-1/2"	80 / 320	0.20	----
59064SMLS	x 3"	40 / 240	0.24	----
59065SMLS	x 3-1/2"	40 / 240	0.29	----
59066SMLS	x 4"	40 / 240	0.33	----
59067SMLS	x 4-1/2"	40 / 160	0.38	----
59068SMLS	x 5"	40 / 120	0.42	----
59069SMLS	x 5-1/2"	40 / 120	0.47	----
59070SMLS	x 6"	40 / 80	0.51	----
59071SMLS	x 7"	40 / 80	0.60	----
59072SMLS	x 8"	40 / 80	0.69	----
59073SMLS	x 9"	40/80	0.73	----
59074SMLS	x 10"	40 / 80	0.88	----
59075SMLS	x 11"	32/64	0.96	----
59076SMLS	x 12"	32 / 64	1.06	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLACK SCH 80 SEAMLESS

NIPPLES AND FITTINGS



3/4" - 14

## 3/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.154 - Grade B - Test Pressure 850 PSI - Thread Length 0.79

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59080SMLS	X Close (1-3/8")	40/240	0.13	----
59081SMLS	x 1-1/2"	100/200	0.15	----
59082SMLS	x 2"	100/200	0.21	----
59083SMLS	x 2-1/2"	40/160	0.27	----
59084SMLS	x 3"	40/160	0.33	----
59085SMLS	x 3-1/2"	40/120	0.39	----
59086SMLS	x 4"	40/120	0.45	----
59087SMLS	x 4-1/2"	40/120	0.51	----
59088SMLS	x 5"	40/120	0.57	----
59089SMLS	x 5-1/2"	48/96	0.64	----
59090SMLS	x 6"	40/80	0.69	----
59091SMLS	x 7"	40/80	0.82	----
59092SMLS	x 8"	40/80	0.94	----
59094SMLS	x 10"	32/64	1.19	----
59096SMLS	x 12"	24/48	1.44	----



1" - 11 1/2

## 1" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.179 - Grade B - Test Pressure 850 PSI - Thread Length 0.98

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59100SMLS	X Close (1-1/2")	40 / 160	0.21	----
59101SMLS	x 2"	40 / 120	0.30	----
59102SMLS	x 2-1/2"	40 / 120	0.37	----
59103SMLS	x 3"	40 / 80	0.47	----
59104SMLS	x 3-1/2"	40 / 80	0.56	----
59105SMLS	x 4"	40 / 80	0.65	----
59106SMLS	x 4-1/2"	40 / 80	0.74	----
59107SMLS	x 5"	40 / 80	0.83	----
59108SMLS	x 5-1/2"	40 / 80	0.92	----
59109SMLS	x 6"	32 / 64	1.01	----
59110SMLS	x 7"	20 / 40	1.19	----
59111SMLS	x 8"	20 / 40	1.37	----
59112SMLS	x 9"	20 / 40	1.55	----
59113SMLS	x 10"	12 / 24	1.74	----
59114SMLS	x 11"	12 / 24	1.92	----
59115SMLS	x 12"	12 / 24	2.10	----

 **WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK SCH 80 SEAMLESS

NIPPLES AND FITTINGS



## 1-1/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.191 - Grade B - Test Pressure 1900 PSI - Thread Length 1.01

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59120SMLS	X Close (1-5/8")	40 / 80	0.31	----
59121SMLS	x 2"	40 / 80	0.42	----
59122SMLS	x 2-1/2"	40 / 80	0.52	----
59123SMLS	x 3"	40 / 80	0.64	----
59124SMLS	x 3-1/2"	24 / 48	0.77	----
59125SMLS	x 4"	24 / 48	0.90	----
59126SMLS	x 4-1/2"	24 / 48	1.02	----
59127SMLS	x 5"	20 / 40	1.15	----
59128SMLS	x 5-1/2"	20 / 40	1.27	----
59129SMLS	x 6"	20 / 40	1.40	----
59130SMLS	x 7"	20 / 40	1.65	----
59131SMLS	x 8"	12 / 24	1.90	----
59132SMLS	x 9"	12 / 24	2.15	----
59133SMLS	x 10"	12 / 24	2.40	----
59134SMLS	x 11"	8 / 16	2.65	----
59135SMLS	x 12"	8 / 16	2.90	----



## 1-1/2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.2 - Grade B - Test Pressure 1900 PSI - Thread Length 1.03

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59140SMLS	X Close (1-3/4")	40 / 80	0.41	----
59141SMLS	x 2"	32 / 64	0.51	----
59142SMLS	x 2-1/2"	32 / 64	0.64	----
59143SMLS	x 3"	32 / 64	0.78	----
59144SMLS	x 3-1/2"	20 / 40	0.94	----
59145SMLS	x 4"	20 / 40	1.09	----
59146SMLS	x 4-1/2"	20 / 40	1.23	----
59147SMLS	x 5"	20 / 40	1.39	----
59148SMLS	x 5-1/2"	16 / 32	1.54	----
59149SMLS	x 6"	12 / 24	1.69	----
59150SMLS	x 7"	12 / 24	2.00	----
59151SMLS	x 8"	12 / 24	2.30	----
59152SMLS	x 9"	12 / 24	2.61	----
59153SMLS	x 10"	8 / 16	2.90	----
59154SMLS	x 11"	8 / 16	3.20	----
59155SMLS	x 12"	8 / 16	3.51	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLACK SCH 80 SEAMLESS

## NIPPLES AND FITTINGS



### 2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.218 - Grade B - Test Pressure 2500 PSI - Thread Length 1.06

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59160SMLS	X Close (2")	32/64	0.30	----
59161SMLS	x 2-1/2"	20 / 40	0.80	----
59162SMLS	x 3"	20 / 40	1.10	----
59163SMLS	x 3-1/2"	12 / 24	1.31	----
59164SMLS	x 4"	12 / 24	1.52	----
59165SMLS	x 4-1/2"	12 / 24	1.72	----
59166SMLS	x 5"	12 / 24	1.94	----
59167SMLS	x 5-1/2"	12 / 24	2.15	----
59168SMLS	x 6"	8 / 16	2.35	----
59169SMLS	x 7"	8 / 16	2.78	----
59170SMLS	x 8"	8 / 16	3.19	----
59171SMLS	x 9"	1 / 8	3.62	----
59172SMLS	x 10"	1 / 8	4.03	----
59173SMLS	x 11"	1 / 8	4.44	----
59174SMLS	x 12"	1 / 8	4.87	----
59196SMLS	x 18"	1/1	7.22	----
59197SMLS	x 24"	1/1	9.74	----
59198SMLS	x 36"	1/1	14.61	----
59199SMLS	x 48"	1/1	19.48	----



### 2-1/2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.276 - Grade B - Test Pressure 2500 PSI - Thread Length 1.57

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59180SMLS	x Close ( 2-1/2" )	1 / 16	1.25	----
59181SMLS	x 3"	1 / 16	1.57	----
59182SMLS	x 3-1/2"	1 / 16	1.82	----
59183SMLS	x 4"	1 / 16	2.15	----
59184SMLS	x 4-1/2"	1 / 16	1.75	----
59185SMLS	x 5"	1 / 16	2.78	----
59186SMLS	x 5-1/2"	1 / 8	2.25	----
59187SMLS	x 6"	1 / 8	3.41	----
59188SMLS	x 7"	1 / 8	3.89	----
59189SMLS	x 8"	1 / 8	4.69	----
59190SMLS	x 9"	1 / 8	5.34	----
59191SMLS	x 10"	1 / 6	5.97	----
59192SMLS	x 11"	1 / 6	4.89	----
59193SMLS	x 12"	1 / 5	7.26	----

 **WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK SCH 80 SEAMLESS

NIPPLES AND FITTINGS

NIPPLES & FITTINGS



## 3" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.3 - Grade B - Test Pressure 2500 PSI - Thread Length 1.64

Part #	Length	Box/Case	Approx. Wt. Lbs.	
59-200SMLS	X Close (2-5/8")	1 / 16	1.79	----
59-201SMLS	x 3"	1 / 16	2.11	----
59-202SMLS	x 3-1/2"	1 / 16	2.55	----
59-203SMLS	x 4"	1 / 8	2.89	----
59-204SMLS	x 4-1/2"	1 / 8	3.30	----
59-205SMLS	x 5"	1 / 8	3.73	----
59-206SMLS	x 5-1/2"	1 / 8	4.17	----
59-207SMLS	x 6"	1 / 8	4.57	----
59-208SMLS	x 7"	1 / 6	5.45	----
59-209SMLS	x 8"	1 / 6	6.29	----
59-210SMLS	x 9"	1 / 6	7.17	----
59-211SMLS	x 10"	1 / 4	8.01	----
59-212SMLS	x 11"	1 / 4	8.85	----
59-213SMLS	x 12"	1 / 4	9.72	----



## 4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.337 - Grade B - Test Pressure 2800 PSI - Thread Length 1.74

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59220SMLS	X Close (2-7/8")	1 / 8	2.91	----
59221SMLS	x 4"	1 / 6	4.26	----
59223SMLS	x 5"	1 / 5	5.49	----
59224SMLS	x 5-1/2"			
59225SMLS	x 6"	1 / 5	6.72	----
59226SMLS	x 7"	1/3	7.33	----
59227SMLS	x 8"	1 / 3	9.23	----
59228SMLS	9"			
59229SMLS	x 10"	1 / 3	11.73	----
59231SMLS	x 12"	1 / 3	14.24	----

## SCHEDULE 80 SEAMLESS



6" DIAMETER



8" DIAMETER

PART #		LENGTH	BOX/CASE	APPROX. WT. LBS.		PART #	
				6"	8"		
59300SMLS	----	X Close	2	3.57	4.62	59-320SMLS	----
59301SMLS	----	x 6"	2	14.29	16.91	59-322SMLS	----
59305SMLS	----	x 8"	2	19.05	22.54	59-324SMLS	----
59306SMLS	----	x 10"	2	23.81	27.47	59-326SMLS	----
59308SMLS	----	x 12"	2	28.57	34.18	59-328SMLS	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK EXTRA HEAVY XXS SEAMLESS

NIPPLES AND FITTINGS



## 1/2" DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.294 - Grade B - Test Pressure 1000 PSI - Thread Length 0.79

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59060SMLSXX	x Close	100 / 200	0.31	----
59062SMLSXX	x 2"	100 / 200	0.58	----
59064SMLSXX	x 3"	50 / 100	0.62	----
59066SMLSXX	x 4"	50 / 100	0.66	----
59070SMLSXX	x 6"	25 / 50	0.75	----



## 3/4" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.308 - Grade B - Test Pressure 1000 PSI - Thread Length 0.79

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59080SMLSXX	x Close	40/240	0.55	----
59082SMLSXX	x 2"	50 / 100	0.62	----
59086SMLSXX	x 4"	25 / 50	0.68	----
59090SMLSXX	x 6"	25 / 50	0.71	----



## 1" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.358 - Grade B - Test Pressure 1000 PSI - Thread Length 0.98

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59100SMLSXX	x close	50 / 100	0.88	----
59101SMLSXX	x 2"	50 / 100	1.07	----
59103SMLSXX	x 3"	20/40	1.10	----
59105SMLSXX	x 4"	20 / 40	1.14	----
59109SMLSXX	x 6"	20 / 40	1.75	----
59111SMLSXX	x 8"	1 / 25	1.88	----
59115SMLSXX	x 12"	1 / 15	2.15	----



## 2" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.436 - Grade B - Test Pressure 2500 PSI - Thread Length 1.06

PART #	LENGTH	BOX/CASE	APPROX. WT. LBS.	
59160SMLSXX	x close	1 / 25	1.36	----
59161SMLSXX	x 2-1/2"	1 / 20	1.67	----
59162SMLSXX	x 3"	1 / 20	2.09	----
59163SMLSXX	x 3-1/2"	1 / 12	2.51	----
59164SMLSXX	x 4"	1 / 12	2.86	----
59166SMLSXX	x 5"	1/12	3.04	----
59168SMLSXX	x 6"	1 / 11	3.20	----
59169SMLSXX	x 7"	1 / 8	4.35	----
59170SMLSXX	x 8"	1 / 8	5.86	----
59171SMLSXX	x 9"	1 / 8	6.58	----
59172SMLSXX	x 10"	1 / 8	7.31	----
59174SMLSXX	x 12"	1 / 8	9.34	----
59179SMLSXX	x 24"	1 / 1	14.77	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SCH 40 AND SCH 80 GROOVE NIPPLES

NIPPLES AND FITTINGS

## THREAD X GROOVE



SCH 40



SCH 80

### 2" DIAMETER

PART #	LIST PRICE	BOX	WTG	LENGTH	WTG	BOX	PART #	LIST PRICE
57162TV	----	50	0.70	x 3	1.03	40	59162TV	----
57164TV	----	30	0.97	x 4	1.40	24	59164TV	----
57168TV	----	20	1.64	x 6	2.41	16	59168TV	----
57170TV	----	20	2.15	x 8	3.20	16	59170TV	----
57172TV	----	10	2.80	x 10	3.65	8	59172TV	----
57174TV	----	10	3.45	x 12	4.01	8	59174TV	----

### 3" DIAMETER

PART #	LIST PRICE	BOX	WTG	LENGTH	WTG	BOX	PART #	LIST PRICE
57201TV	----	20	1.26	x 3	2.01	16	59201TV	----
57203TV	----	10	1.80	x 4	3.01	8	59203TV	----
57207TV	----	10	3.17	x 6	4.87	8	59207TV	----
57209TV	----	8	4.13	x 8	5.86	6	59209TV	----
57211TV	----	5	5.48	x 10	6.19	4	59211TV	----
57213TV	----	5	6.24	x 12	6.37	4	59213TV	----

### 4" DIAMETER

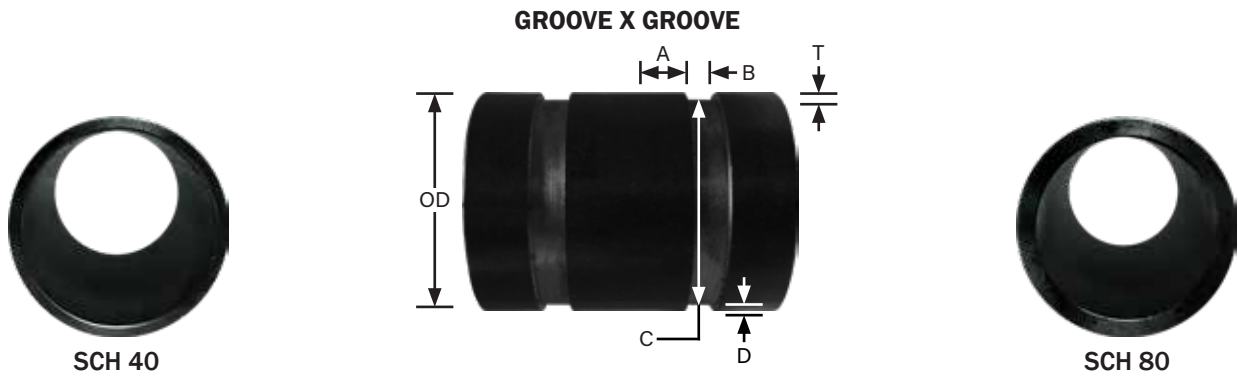
PART #	LIST PRICE	BOX	WTG	LENGTH	WTG	BOX	PART #	LIST PRICE
57222TV	----	8	2.40	x 3	4.11	6	59222TV	----
57223TV	----	8	2.52	x 4	4.15	6	59221TV	----
57227TV	----	6	4.30	x 6	6.52	5	59225TV	----
57229TV	----	4	5.63	x 8	7.18	3	59229TV	----
57332TV	----	4	7.90	x 10	11.74	3	59231TV	----
57228TV	----	4	8.25	x 12	14.24	3	59227TV	----

NOMINAL IPS PIPE SIZE	O.D. ACTUAL	GASKET SEAT "A"	GROOVE WIDTH "B"	GROOVE DIAMETER "C"	ACTUAL GROOVE DEPTH "D"
2	2.375	0.625	0.312	2.250	0.062
3	3.500	0.625	0.312	3.344	0.078
4	4.500	0.625	0.375	4.334	0.083

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK SCH 40 AND SCH 80 SEAMLESS GROOVE NIPPLES

NIPPLES AND FITTINGS



2" DIAMETER							
PART #		BOX	WTG	LENGTH	WTG	BOX	PART #
57162V	----	50	0.70	x 3	1.03	40	59162V
57164V	----	30	0.97	x 4	1.40	24	59164V
57168V	----	20	1.64	x 6	2.41	16	59168V
57170V	----	20	2.15	x 8	3.20	16	59170V
57172V	----	10	2.80	x 10	3.65	8	59172V
57174V	----	10	3.45	x 12	4.01	8	59174V

3" DIAMETER							
PART #		BOX	WTG	LENGTH	WTG	BOX	PART #
57201V	----	20	1.26	x 3	2.01	16	59201V
57203V	----	10	1.80	x 4	3.01	8	59203V
57207V	----	10	3.17	x 6	4.87	8	59207V
57209V	----	8	4.13	x 8	5.86	6	59209V
57211V	----	5	5.48	x 10	6.19	4	59211V
57213V	----	5	6.24	x 12	6.37	4	59213V

4" DIAMETER							
PART #		BOX	WTG	LENGTH	WTG	BOX	PART #
57223V	----	8	2.52	x 4	4.15	6	59221V
57227V	----	6	4.35	x 6	6.52	5	59225V
57229V	----	4	5.63	x 8	7.18	3	59227V
57332V	----	4	7.90	x 10	11.74	3	59229V
57228V	----	4	8.25	x 12	14.24	3	59231V

## SEAMLESS SCH 40 GROOVE X BEVEL NIPPLES



PART #	DIA. X LENGTH	
57162GBS	2 x 3	----
57201GBS	3 x 3	----
57222GBS	4 x 3	----
57400GBS	8 x 3	----
57500GBS	10 x 3	----
57600GBS	12 x 3	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# MERCHANT COUPLINGS

NIPPLES AND FITTINGS

## MERCHANT COUPLINGS

### Product Specifications

Welded steel couplings both galvanized and black in diameters from 1/8" up to 4".

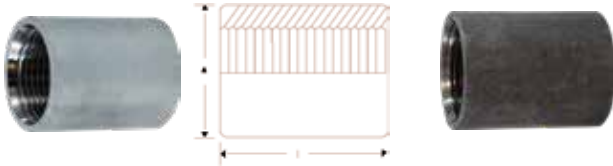
### Technical Specifications

**Standards:** Product complies with ASTM A865 and ANSI B1.20.1 for threading, dimensions and pipe specifications. Federal Spec WW-P-404

**Pipe:** Complies with ASTM A-53 milltested schedule 40 and 80. Meets ANSI B36.1. All pipe is hydrostatic tested.

**Galvanized:** Zinc coating applied by hot dipping. Galvanized complying with ASTM-A-123.

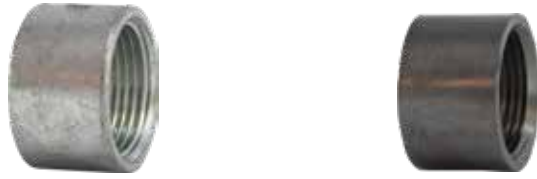
### MERCHANT COUPLINGS



• Straight threads thru 2"

PART # GALV		SIZE	PART # BLACK	
64770	----	1/8"	65770	----
64771	----	1/4"	65771	----
64772	----	3/8"	65772	----
64773	----	1/2"	65773	----
64774	----	3/4"	65774	----
64775	----	1"	65775	----
64776	----	1-1/4"	65776	----
64777	----	1-1/2"	65777	----
64778	----	2"	65778	----
64779	----	2-1/2"	65779	----
64780	----	3"	65780	----
64781	----	4"	65781	----
		5"	65782	----
		6"	65783	----

### HALF MERCHANT COUPLINGS



• Straight threads thru 2"

PART # GALV		SIZE	PART # BLACK	
		1/8"	65770H	
		1/4"	65771H	----
		3/8"	65772H	----
64773H	----	1/2"	65773H	----
64774H	----	3/4"	65774H	----
64775H	----	1"	65775H	----
64776H	----	1-1/4"	65776H	----
64777H	----	1-1/2"	65777H	----
64778H	----	2"	65778H	----
		2-1/2"	65779H	----
64780H	----	3"	65780H	----
64781H	----	4"	65781H	----



### #304 STAINLESS STEEL MERCHANT COUPLINGS

PART #	SIZE	
61775	1	----
61776	1-1/4	----
61777	1-1/2	----
61778	2	----

Also available:  
Extra Heavy Merchant Couplings

### MERCHANT COUPLINGS SPECIFICATIONS

SIZE	OUTSIDE DIAM.	LENGTH INCHES	WEIGHT 100 PCS APPROX.		QUANTITY PER BOX	THREADS PER INCH	THREADS TYPE
				POUNDS			
1/8"	.59"	.78		3.5	1000	27	Straight
1/4"	.73"	1.18		7.5	500	18	Straight
3/8"	.86"	1.18"		9	600	18	Straight
1/2"	1.063"	1-9/16"		13.0	100	14	Straight
3/4"	1.313"	1-5/8"		28.3	50	14	Straight
1"	1.576"	2"		40.1	30	11-1/2	Straight
1-1/4"	1.900"	2-1/16"		49.5	25	11-1/2	Straight
1-1/2"	2.17"	2-3/64"		71.48	25	11-1/2	Straight
2"	2.750"	2-1/8"		112.0	20	11-1/2	Straight
2-1/2"	3.250"	3-1/8"		231.2	8	8	Taper Tapped
3"	4.000"	3-1/4"		353.8	5	8	Taper Tapped
4"	5.000"	3-1/2"		471.8	4	8	Taper Tapped
6"	7.32	4"		1000.05	4	8	Taper Tapped

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# API LINE COUPLINGS

## A105 BLACK STEEL TAPER TAPPED COUPLINGS

### Product Specifications

These couplings are manufactured in accordance with American Petroleum Institute specifications 5L & 5B.

All couplings are phosphated.

All sizes are taper tapped 3/4" per foot on the diameter.

\*Certified by the American Petroleum Institute



### A105

- Black Steel
- API line API SL

- Each end has a short, unthreaded recess before the threads start.
- Use with sch 80 & sch. 160 nipples & pipe.
- Max. pressure: 3000PSI

### API LINE PIPE COUPLINGS

PART #	NPT SIZE	THREADS PER INCH	OUTSIDE DIAMETER	LENGTH	UNIT WEIGHT	
65770API	1/8"	27	0.563	1-1/16	0.04	----
65771API	1/4"	18	0.719	1-5/8	0.10	----
65772API	3/8"	18	0.875	1-5/8	0.13	----
65773API	1/2"	14	1.063	2-1/8	0.24	----
65774API	3/4"	14	1.313	2-1/8	0.35	----
65775API	1"	11.5	1.576	2-5/8	0.52	----
65776API	1-1/4"	11.5	2.054	2-3/4	1.00	----
65777API	1-1/2"	11.5	2.200	2-3/4	0.88	----
65778API	2"	11.5	2.875	2-7/8	1.83	----
65779API	2-1/2"	8	3.375	4-1/8	3.28	----
65780API	3"	8	4.000	4-1/4	4.09	----
65781API	4"	8	5.200	4-1/2	7.59	----
65783API	6"	8	7.390	4-5/8	12.92	----
65784API	8"	8	9.625	5-3/4	23.18	----

I'm sorry, if you were right, I'd agree with you.

- Robin Williams

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MALLEABLE FITTINGS

NIPPLES AND FITTINGS

## MALLEABLE FITTINGS



- Saturated steam pressure 150 PSI @ 350°F
- Max pressure 300 PSI @ 150°F
- Temp range -20°F to 350°F

### ISO 9002 - CERTIFICATE OF QUALITY - UL/FM LISTED

Our quality fittings are made with care and attention to detail. With better molds we can reduce parting lines and rough edges resulting in better fluid flow. By using a low temperature galvanizing process the coating is more durable which means a longer lasting fitting. All Fittings are 100% Pressure Tested to 300# Class.

*(Every fitting is subjected to an underwater fitness test to ensure the highest quality)*

### SPECIFICATIONS

- MATERIAL: ASTM A 197 - Cuppla Malleable Iron, ASTM A 153 - Hot dipped galvanizing • Coating ASTM A164 LS
- DIMENSIONS: ANSI B 16.3 - Malleable Iron threaded fittings, ANSI B 16.14 - Ferrous Pipe Plugs, Bushings etc..., ANSI B 16.39 - Malleable Iron threaded pipe unions.
- THREADS: ANSI B 2.1 or BS 21 ASME B1.20.1 • RoHS Compliant • Tapered Threads
- Pressure - Saturated steam 150 PSI @350°F: Max pressure 300 PSI - 150°F
- Temperature range -20 - 350°F

### MALLEABLE IRON - ANSI B

F°	Class	16.3		
		Sizes 1/4-1	Sizes 1 1/4-2	Sizes 2 1/4-3
	PSIG	300#	300#	300#
-200-	300	2000	1500	1000
150				
200	265	1785	1350	910
250	225	1575	1200	825
300	185	1360	1050	735
366*	150	1150	900	650

\*Permissible for service temperature up to 366°F, reflecting the temperature of saturated steam at 150 psig.

### STEEL FITTINGS



- 1010 Carbon Steel, 3/4 taper threads ( see hydraulic section for 7/8 taper threads.)
- Finish or coating • Black Dipped in rust resistant
- Galvanized, Zinc Plated (Inside and Out)

### 300lb MALLEABLE FITTINGS



**Max. pressure: 300 psi WOG @ 72°F; 150 psi WOG saturated steam**

- Meet ANSI/ ASME B1.20.1 standards
- Black meet ASTM 197 standards

### BULL PLUGS AND SWAGES



### FLANGES

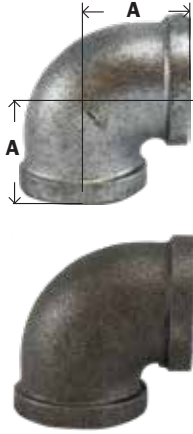


**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED IRON #150

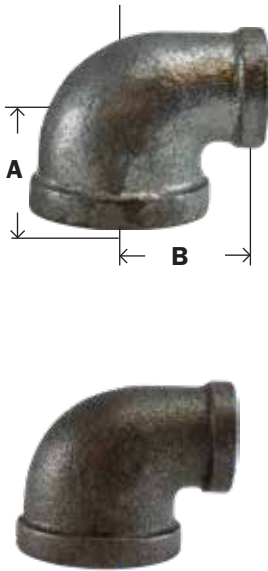
## NIPPLES AND FITTINGS

### ELBOWS 90°



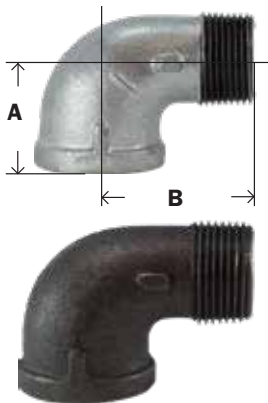
Part # Galvanized		Size	A	Box/Case	Approx. Wt. Lbs.	Part # Black	
64100	----	1/8"	0.69	50/600	0.07	65100	----
64101	----	1/4"	0.81	35/420	0.10	65101	----
64102	----	3/8"	0.95	90/360	0.16	65102	----
64103	----	1/2"	1.12	50/200	0.23	65103	----
64104	----	3/4"	1.31	35/105	0.35	65104	----
64105	----	1"	1.50	20/60	0.57	65105	----
64106	----	1-1/4"	1.75	20/40	0.86	65106	----
64107	----	1-1/2"	1.94	15/30	1.31	65107	----
64108	----	2"	2.25	8/16	1.79	65108	----
64109	----	2-1/2"	2.70	6/12	3.35	65109	----
64110	----	3"	3.08	4/8	5	65110	----
64112	----	4"	3.79	1/2	9.02	65112	----
64114	----	6"	5.13	1/1	23.68	65114	----
		8"			41.1	65115	----

### REDUCING ELBOWS 90°



PART # GALVANIZED		SIZE	A	B	BOX/CASE	AP-PROX. WT. LBS.	PART # BLACK	
64122	----	3/8" x 1/4"	0.88	0.90	90/360	0.16	65122	----
64123	----	1/2" x 1/4"	0.97	0.98	60/240	0.21	65123	----
64124	----	1/2" x 3/8"	1.04	1.03	60/240	0.24	65124	----
64126	----	3/4" x 3/8"	1.12	1.13	40/160	0.31	65126	----
64127	----	3/4" x 1/2"	1.20	1.22	40/160	0.44	65127	----
64130	----	1" x 1/2"	1.26	1.40	25/100	0.52	65130	----
64131	----	1" x 3/4"	1.37	1.45	50/100	0.58	65131	----
64133	----	1-1/4" x 3/4"	1.45	1.62	15/120	0.79	65133	----
64134	----	1-1/4" x 1"	1.58	1.67	10/40	0.80	65134	----
64136	----	1-1/2" x 3/4"	1.52	1.75	10/40	0.88	65136	----
64137	----	1-1/2" x 1"	1.65	1.80	10/40	1.07	65137	----
64138	----	1-1/2" x 1-1/4"	1.82	1.88	15/30	1.12	65138	----
64140	----	2" x 1"	1.73	2.02	14/28	1.41	65140	----
64141	----	2" x 1-1/4"	1.90	2.10	10/20	1.53	65141	----
64142	----	2" x 1-1/2"	2.02	2.16	10/20	1.65	65142	----
64145	----	2-1/2" x 1-1/2"	2.16	2.51	6/12	2.97	65145	----
64146	----	2-1/2" x 2"	2.39	2.60	6/12	3.18	65146	----
64148	----	3" x 1-1/2"	2.28	2.83	6/18	4.54	65148	----

### 90° STREET ELBOWS



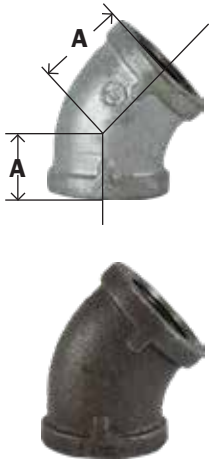
PART # GALVANIZED		SIZE	A	B	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64160	----	1/8"	0.69	1.00	60/720	.06	65160	----
64161	----	1/4"	0.80	1.17	35/420	.10	65161	----
64162	----	3/8"	0.95	1.48	40/240	.15	65162	----
64163	----	1/2"	1.10	1.59	60/180	.22	65163	----
64164	----	3/4"	1.28	1.85	35/105	.39	65164	----
64165	----	1"	1.47	2.10	35/105	.60	65165	----
64166	----	1-1/4"	1.75	2.57	25/50	.95	65166	----
64167	----	1-1/2"	1.90	2.63	9/27	1.37	65167	----
64168	----	2"	2.21	3.19	8/16	2.25	65168	----
64169	----	2-1/2"	2.65	3.78	5/10	3.32	65169	----
64170	----	3"	3.02	4.42	4/8	5.27	65170	----
64171	----	4"	3.72	5.57	2/4	8.94	65171	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED IRON #150

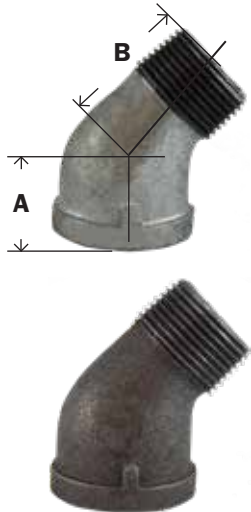
## NIPPLES AND FITTINGS

### ELBOWS 45°



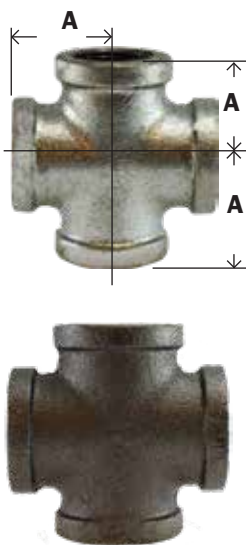
PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64180	----	1/8"	0.63	50/600	.07	65180	----
64181	----	1/4"	0.73	30/360	.10	65181	----
64182	----	3/8"	0.80	75/300	.14	65182	----
64183	----	1/2"	0.88	50/200	.21	65183	----
64184	----	3/4"	0.98	40/120	.33	65184	----
64185	----	1"	1.12	20/60	.50	65185	----
64186	----	1-1/4"	1.29	20/40	.74	65186	----
64187	----	1-1/2"	1.43	10/30	1.01	65187	----
64188	----	2"	1.68	12/24	1.53	65188	----
64189	----	2-1/2"	1.95	9/18	2.78	65189	----
64190	----	3"	2.17	1/10	4.49	65190	----
64191	----	4"	2.61	2/4	7.44	65191	----
64192	----	6"	3.46	1/1	18.63	65192	----
		8"			26.40	65194	----

### 45° STREET ELBOWS



PART # GALVANIZED		SIZE	A	B	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64200	----	1/8"	0.63	0.83	70/840	.05	65200	----
64201	----	1/4"	0.73	0.94	40/480	.09	65201	----
64202	----	3/8"	0.80	1.03	100/400	.14	65202	----
64203	----	1/2"	0.86	1.30	75/225	.19	65203	----
64204	----	3/4"	0.96	1.48	40/120	.28	65204	----
64205	----	1"	1.10	1.69	25/75	.48	65205	----
64206	----	1-1/4"	1.26	1.87	10/40	.71	65206	----
64207	----	1-1/2"	1.40	2.05	10/30	1.02	65207	----
64208	----	2"	1.65	2.38	12/24	1.68	65208	----
64209	----	2-1/2"	1.95	2.72	6/12	2.69	65209	----
64210	----	3"	2.17	3.16	3/6	4.61	65210	----
64211	----	4"	2.61	3.90	2/4	7.74	65211	----

### CROSSES



PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64390	----	1/8"	0.65	50/600	.14	65390	----
64391	----	1/4"	0.80	60/240	.17	65391	----
64392	----	3/8"	0.95	50/150	.26	65392	----
64393	----	1/2"	1.12	30/90	.42	65393	----
64394	----	3/4"	1.31	20/60	.64	65394	----
64395	----	1"	1.50	15/30	.98	65395	----
64396	----	1-1/4"	1.75	10/20	1.45	65396	----
64397	----	1-1/2"	1.94	8/16	1.90	65397	----
64398	----	2"	2.25	5/10	2.96	65398	----
64399	----	2-1/2"	2.71	4/8	5.49	65399	----
64400	----	3"	3.06	2/4	7.71	65400	----
		4"		1/1	14.77	65401	----

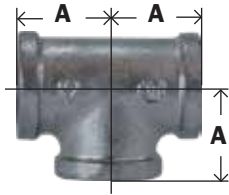
**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

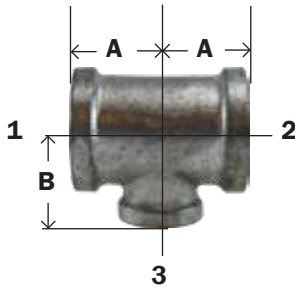
### TEES



PART # GALVANIZED		SIZE	A	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64250	----	1/8"	0.69	120/480	.11	65250	----
64251	----	1/4"	0.81	75/300	.15	65251	----
64252	----	3/8"	0.95	45/180	.22	65252	----
64253	----	1/2"	1.12	40/120	.36	65253	----
64254	----	3/4"	1.31	35/70	.48	65254	----
64255	----	1"	1.50	20/40	.83	65255	----
64256	----	1-1/4"	1.75	14/28	1.29	65256	----
64257	----	1-1/2"	1.94	12/24	1.66	65257	----
64258	----	2"	2.26	8/16	2.50	65258	----
64259	----	2-1/2"	2.70	4/8	4.45	65259	----
64260	----	3"	3.08	1/6	6.72	65260	----
64261	----	4"	3.79	1/2	11.31	65261	----
64262	----	6"	5.13	1/1	30.75	65262	----
		8"			37.85	65264	----

### REDUCING TEES

(SAME SIZE ON RUN, REDUCING ON BRANCH)



PART # GALVANIZED		SIZE (1&2) X 3	A	B	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64273	----	3/8" x 1/4"	0.81	0.90	25/300	.18	65273	----
64276	----	1/2" x 1/4"	0.97	0.98	40/160	.24	65276	----
64279	----	1/2" x 3/8"	1.04	1.03	40/160	.35	65279	----
64282	----	3/4" x 1/4"	1.05	1.08	25/100	.43	65282	----
64283	----	3/4" x 3/8"	1.12	1.13	25/100	.39	65283	----
64286	----	3/4" x 1/2"	1.20	1.18	20/80	.49	65286	----
64268	----	1" x 1/4"	1.11	1.22	20/80	.51	65268	----
64269	----	1" x 3/8"	1.18	1.27	15/60	.55	65269	----
64291	----	1" x 1/2"	1.26	1.40	15/60	.63	65291	----
64298	----	1" x 3/4"	1.37	1.45	12/48	.71	65298	----
64301	----	1-1/4" x 1/2"	1.34	1.45	20/40	.91	65301	----
64303	----	1-1/4" x 3/4"	1.45	1.62	20/40	.99	65303	----
64306	----	1-1/4" x 1"	1.58	1.66	20/40	1.07	65306	----
64721	----	1-1/2" x 1/2"				1.12	65721	----
64316	----	1-1/2" x 3/4"	1.41	1.75	15/30	1.23	65316	----
64318	----	1-1/2" x 1"	1.65	1.88	10/30	1.33	65318	----
64322	----	1-1/2" x 1-1/4"	1.65	1.88	12/24	1.52	65322	----
64327	----	2" x 1/2"	1.49	1.88	10/20	1.64	65327	----
64328	----	2" x 3/4"	1.60	1.97	10/20	1.71	65328	----
64330	----	2" x 1"	1.73	2.02	10/20	1.88	65330	----
64334	----	2" x 1-1/4"	1.86	2.06	8/16	2.03	65334	----
64336	----	2" x 1-1/2"	1.98	2.12	8/16	2.22	65336	----
		2-1/2" x 1"				2.85	65342	----
64343	----	2-1/2" x 1-1/2"	2.16	2.51	5/10	2.97	65343	----
64729	----	3" x 1"	2.00	2.00	3/6	4.15		
		3" x 1-1/2"				5.19	65359	----
64351	----	3" x 2"	2.52	2.89	3/6	5.35	65351	----

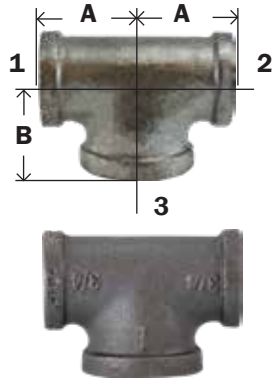
**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**NIPPLES & FITTINGS**

# BLACK AND GALVANIZED IRON #150

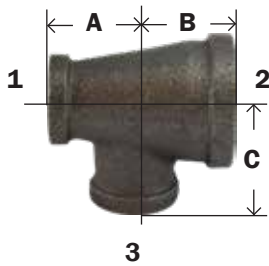
## NIPPLES AND FITTINGS

### BULLHEAD TEES



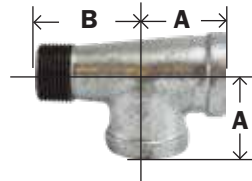
PART # GALVANIZED		SIZE (1&2) X 3	A	B	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64280	----	1/2" x 3/4"	1.22	1.20	30/120	.4	65280	----
64733	----	1/2" x 1"	1.36	1.26	25/100	.50	65733	----
64289	----	3/4" x 1"	1.45	1.37	20/120	.60	65289	----
64299	----	1" x 1-1/4"	1.67	1.58	15/30	.96	65299	----
64300	----	1" x 1-1/2"	1.80	1.65	9/36	1.11	65300	----
64317	----	1-1/4" x 1-1/2"	1.88	1.82	12/24	1.07	65317	----

### REDUCING TEES REDUCING ON RUN



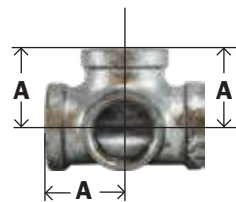
PART # BLACK	SIZE 1 X 2 X 3	A	B	C	BOX/CASE	APPROX. WT. LBS.	
65287	3/4" x 1/2" x 1/2"	1.18	1.18	1.20	25/100	0.39	----
65288	3/4" x 1/2" x 3/4"	1.28	1.20	1.28	20/80	0.49	----
65292	1" x 1/2" x 1/2"	1.31	1.22	1.31	20/80	0.51	----
65293	1" x 1/2" x 3/4"	1.22	1.37	1.45	20/80	0.53	----
65294	1" x 1/2" x 1"	1.40	1.50	1.50	15/60	0.54	----
65295	1" x 3/4" x 1/2"	1.20	1.26	1.40	20/80	0.58	----
65296	1" x 3/4" x 3/4"	1.34	1.28	1.42	15/60	0.63	----
65297	1" x 3/4" x 1"	1.45	1.50	1.50	15/60	0.62	----
65347	1-1/4" x 3/4" x 3/4"	1.31	1.45	1.64	10/40	0.66	----
65305	1-1/4" x 3/4" x 1-1/4"	1.62	1.75	1.75	10/40	1.14	----
65309	1-1/4" x 1" x 1"	1.55	1.47	1.63	20/40	1.00	----
65346	1-1/4" x 3/4" x 1/2"	1.31	1.45	1.64	20/40	1.05	----
65349	1-1/4" x 1" x 1/2"	1.26	1.34	1.53	20/40	1.10	----
65350	1-1/4" x 1" x 3/4"						----
65310	1-1/4" x 1" x 1-1/4"	1.30	1.36	1.44	15/30	1.21	----
65372	1-1/2" x 1" x 1"	1.50	1.65	1.78	15/30	1.28	----
65375	1-1/2" x 1-1/4" x 3/4"	1.43	1.52	1.25	15/30	1.30	----
65377	1-1/2" x 1-1/4" x 1-1/4"	1.75	1.82	1.88	15/30	1.35	----
65267	2" x 3/4" x 2"						----
65312	2" x 1-1/2" x 1-1/4"	1.82	1.90	2.10	10/30	1.21	----
65313	2" x 1-1/2" x 1-1/2"	1.94	2.02	2.16	10/30	1.79	----

### MALLEABLE SERVICE TEE (STREET TEE)



PART # GALVANIZED		SIZE	A	B	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64363	----	1/2"	1.12	1.62	40/12	0.31	65363	----
64364	----	3/4"	1.31	1.89	25/75	0.49	65364	----

### SIDE OUTLET TEES



PART # GALVANIZED		SIZE	A	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64383	----	1/2"	1.12	25/100	.39	65383	----
64384	----	3/4"	1.31	15/60	.58	65384	----
64385	----	1"	1.50	20/40	.88	65385	----
64386	----	1-1/4"	1.75	12/24	1.32	65386	----
		1-1/2"	1.97	1/1	1.56	65387	----
		2"	2.29	1/1	1.81	65388	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

### COUPLINGS



PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64410	----	1/8"	0.96	70/840	.07	65410	----
64411	----	1/4"	1.06	40/480	.09	65411	----
64412	----	3/8"	1.16	40/480	.13	65412	----
64413	----	1/2"	1.34	60/240	.19	65413	----
64414	----	3/4"	1.52	50/150	.28	65414	----
64415	----	1"	1.67	25/100	.45	65415	----
64416	----	1-1/4"	1.93	16/64	.66	65416	----
64417	----	1-1/2"	2.15	18/36	.84	65417	----
64418	----	2"	2.54	12/24	1.39	65418	----
64419	----	2-1/2"	2.88	8/16	2.42	65419	----
64420	----	3"	3.18	1/12	3.49	65420	----
64421	----	4"	3.69	3/6	5.81	65421	----
64422	----	6"	4.23	1/2	28.62	65422	----

### REDUCING COUPLINGS



PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64430	----	1/4" x 1/8"	1.00	50/600	.07	65430	----
64431	----	3/8" x 1/8"	1.13	35/420	.09	65431	----
64432	----	3/8" x 1/4"	1.13	30/360	.11	65432	----
64433	----	1/2" x 1/8"	1.25	75/300	.13	65433	----
64434	----	1/2" x 1/4"	1.25	75/300	.11	65434	----
64435	----	1/2" x 3/8"	1.25	60/240	.15	65435	----
64439	----	3/4" x 1/8"	1.44	60/240	.18	65439	----
64436	----	3/4" x 1/4"	1.44	45/18	.19	65436	----
64437	----	3/4" x 3/8"	1.44	45/18	.21	65437	----
64438	----	3/4" x 1/2"	1.44	60/180	.25	65438	----
64459	----	1" x 1/4"	1.69	45/135	.34	65459	----
64440	----	1" x 3/8"	1.69	30/120	.35	65440	----
64441	----	1" x 1/2"	1.69	30/120	.36	65441	----
64442	----	1" x 3/4"	1.69	25/100	.39	65442	----
64460	----	1-1/4" x 3/8"	2.06	25/75	.55	65460	----
64444	----	1-1/4" x 1/2"	2.06	25/75	.53	65444	----
64445	----	1-1/4" x 3/4"	2.06	25/75	.57	65445	----
64446	----	1-1/4" x 1"	2.06	15/60	.61	65446	----
64443	----	1-1/2" x 3/8"	2.31	20/60	.71	65443	----
64447	----	1-1/2" x 1/2"	2.31	20/60	.69	65447	----
64448	----	1-1/2" x 3/4"	2.31	15/60	.71	65448	----
64449	----	1-1/2" x 1"	2.31	25/50	.78	65449	----
64450	----	1-1/2" x 1-1/4"	2.31	12/48	.87	65450	----
64458	----	2" x 1/2"	2.81	12/36	1.14	65458	----
64451	----	2" x 3/4"	2.81	12/36	1.14	65451	----
64452	----	2" x 1"	2.81	12/36	1.21	65452	----
64453	----	2" x 1-1/4"	2.81	9/27	1.19	65453	----
64454	----	2" x 1-1/2"	2.81	9/27	1.38	65454	----
64461	----	2-1/2" x 1-1/2"	3.25	20/40	2.07	65461	----
64462	----	2-1/2" x 2"	3.25	7/14	2.23	65462	----
64486	----	3" x 1-1/2"	3.69	6/12	3.23	65486	----
64456	----	3" x 2"	3.69	6/12	3.30	65456	----
64463	----	3" x 2-1/2"	3.69	5/10	3.55	65463	----
64464	----	4" x 2"	4.38	3/6	5.55	65464	----
64465	----	4" x 2-1/2"	4.38	3/6	5.90	65465	----
64457	----	4" x 3"	4.38	3/6	6.05	65457	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

### HEX BUSHING



\* INSIDE HEX

PART #	GALVANIZED	SIZE M X F	A	HEX	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK
64500	----	*1/4" x 1/8"	0.79	0.67	1/25	.03	65500
64501	----	*3/8" x 1/8"	0.79	0.75	1/25	.06	65501
64502	----	*3/8" x 1/4"	0.79	0.75	1/25	.05	65502
64503	----	1/2" x 1/8"	0.84	1.03	150/600	.09	65503
64504	----	1/2" x 1/4"				.08	65504
64505	----	1/2" x 3/8"	0.75	1.03	150/600	.07	65505
64506	----	3/4" x 1/8"	0.85	1.15	75/300	.14	65506
64507	----	3/4" x 1/4"	0.85	1.15	75/300	.13	65507
64508	----	3/4" x 3/8"	0.85	1.15	75/300	.12	65508
64509	----	3/4" x 1/2"	0.93	1.15	75/300	.10	65509
64510*	----	1" x 1/4"	1.13	1.12	50/200	.20	65510*
64511*	----	1" x 3/8"	1.13	1.12	50/200	.18	65511*
64512	----	1" x 1/2"	1.10	1.42	50/200	.21	65512
64513	----	1" x 3/4"	1.10	1.42	50/200	.17	65513
64514*	----	1-1/4" x 1/4"	1.24	1.12	30/120	.29	65514*
64515*	----	1-1/4" x 3/8"	1.24	1.12	30/120	.29	65515*
64516*	----	1-1/4" x 1/2"	1.24	1.24	30/120	.31	65516*
64517	----	1-1/4" x 3/4"	1.08	1.76	30/120	.35	65517
64518	----	1-1/4" x 1"	1.08	1.76	30/120	.29	65518
64519*	----	1-1/2" x 1/4"	1.30	1.12	25/75	.40	65519*
64520*	----	1-1/2" x 3/8"	1.30	1.12	25/75	.38	65520*
64521*	----	1-1/2" x 1/2"	1.30	1.34	25/75	.38	65521*
64522*	----	1-1/2" x 3/4"	1.30	1.44	25/75	.40	65522*
64523	----	1-1/2" x 1"	1.23	2.00	25/75	.45	65523
64524	----	1-1/2" x 1-1/4"	1.23	2.00	25/75	.34	65524
64526	----	2" x 1/4"	1.29	1.12	20/60	.57	65526
64525*	----	2" x 3/8"	1.28	1.12	20/60	.57	65525*
64527*	----	2" x 1/2"	1.39	1.34	20/60	.57	65527*
64528*	----	2" x 3/4"	1.39	1.63	20/60	.63	65528*
64529*	----	2" x 1"	1.39	1.77	20/60	.66	65529*
64530	----	2" x 1-1/4"	1.50	2.48	20/60	.74	65530
64531	----	2" x 1-1/2"	1.50	2.48	20/60	.61	65531
64546*	----	2-1/2" x 1/2"	1.51	1.34	15/30	.97	65546*
64547*	----	2-1/2" x 3/4"	1.51	1.63	15/30	.91	65547*
64532*	----	2-1/2" x 1"	1.51	1.95	15/30	.97	65532*
64533*	----	2-1/2" x 1-1/4"	1.51	2.39	15/30	1.03	65533*
64534	----	2-1/2" x 1-1/2"	1.51	2.98	15/30	1.16	65534
64535	----	2-1/2" x 2"	1.54	2.98	15/30	1.01	65535
64550	----	3" x 1"	1.61	1.95	12/24	1.41	65550
64549*	----	3" x 1-1/4"	1.61	2.39	12/24	1.42	65549*
64537*	----	3" x 1-1/2"	1.61	2.68	12/24	1.51	65537*
64538	----	3" x 2"	1.61	3.86	12/24	1.71	65538
64539	----	3" x 2-1/2"	1.61	3.86	12/24	1.68	65539
		3-1/2" x 3"	1.86	4.20	5/10	2.17	65555
64551	----	4" x 3/4"	2.15	4.90	5/10	3.88	65551
64553*	----	4" x 1"	2.00	4.75	5/10	3.79	65553*
64552	----	4" x 1-1/4"	1.82	2.39	5/10	2.39	65552
64540	----	4" x 1-1/2"	1.82	2.68	5/10	2.39	65540
64541*	----	4" x 2"	1.82	3.31	5/10	2.52	65541*
64542*	----	4" x 2-1/2"	2.06	3.87	5/10	2.87	65542*
64543	----	4" x 3"	2.17	4.96	5/10	2.95	65543
		5" x 4"	2.16	5.34	2/4	6.80	65544
64545*	----	6" x 4"	2.33	5.79	2/4	7.11	65545*

NOTE: ADD DT TO THE PART# FOR A DOUBLE-TAPPED BUSHING

# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

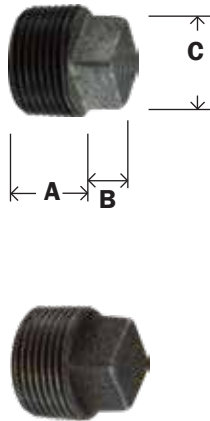
### UNIONS



• Brass Seat

PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64600	----	1/8"	1.26	60/240	.17	65600	----
64601	----	1/4"	1.44	20/240	.25	65601	----
64602	----	3/8"	1.61	40/160	.37	65602	----
64603	----	1/2"	1.72	50/100	.52	65603	----
64604	----	3/4"	1.94	35/70	.78	65604	----
64605	----	1"	2.06	20/40	1.18	65605	----
64606	----	1-1/4"	2.26	15/30	1.64	65606	----
64607	----	1-1/2"	2.41	10/20	2.08	65607	----
64608	----	2"	2.75	6/12	3.24	65608	----
64609	----	2-1/2"	3.22	4/8	5.31	65609	----
64610	----	3"	3.50	4/8	6.94	65610	----
64611	----	4"	3.85	2/4	12.02	65611	----

### SQUARE HEAD PLUGS • Cored



PART # GALVANIZED		SIZE	A	B	C	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
		*1/8"	0.41	0.23	0.30	1/25	.02	65650	----
64651	----	*1/4"	0.48	0.28	0.38	1/25	.03	65651	----
64652	----	*3/8"	0.53	0.31	0.43	1/25	.04	65652	----
64653	----	1/2"	0.58	0.38	0.56	50/600	.08	65653	----
64654	----	3/4"	0.65	0.44	0.63	30/360	.13	65654	----
64655	----	1"	0.75	0.50	0.82	20/240	.22	65655	----
64656	----	1-1/4"	0.82	0.56	0.94	40/120	.33	65656	----
64657	----	1-1/2"	0.85	0.62	1.13	30/90	.41	65657	----
64658	----	2"	0.91	0.68	1.31	20/60	.68	65658	----
64659	----	2-1/2"	1.26	0.74	1.50	16/64	.89	65659	----
64660	----	3"	1.16	0.80	1.69	16/32	1.68	65660	----
64661	----	4"	1.22	1.00	2.28	6/12	3.02	65661	----
		6"	1.85	1.13	5.97	5/10	11.41	65662	----
		8"				1/1		65664	----

### CAPS



PART # GALVANIZED		SIZE	A	BOX/ CASE	APPROX. WT. LBS.	PART # BLACK	
64470	----	1/8"	0.55	1/25	.03	65470	----
64471	----	1/4"	0.62	80/960	.07	65471	----
64472	----	3/8"	0.74	60/720	.08	65472	----
64473	----	1/2"	0.87	75/300	.13	65473	----
64474	----	3/4"	0.97	40/160	.18	65474	----
64475	----	1"	1.16	25/100	.30	65475	----
64476	----	1-1/4"	1.28	20/80	.47	65476	----
64477	----	1-1/2"	1.33	18/54	.66	65477	----
64478	----	2"	1.45	12/36	.99	65478	----
64479	----	2-1/2"	1.70	20/40	1.58	65479	----
64480	----	3"	1.80	12/24	2.51	65480	----
64481	----	4"	2.08	6/12	4.09	65481	----
64482	----	6"	2.55	2/4	5.18	65482	----

\* Use steel fittings for smaller sizes. See page 313-314 for Galvanized and Black Steel Fittings.

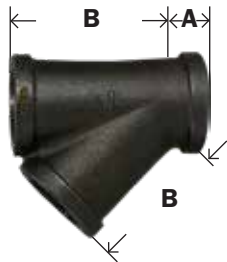
WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

### LATERAL Ys



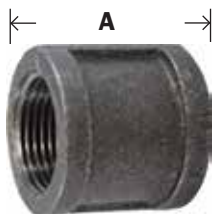
PART #	SIZE	A	B	CASE	WEIGHT	
65963	1/2	2.32	1.71	120	.35	----
65964	3/4	2.77	2.05	60	.58	----
65965	1	3.28	2.42	40	.97	----
65966	1-1/4	3.94	2.92	24	1.44	----
65967	1-1/2	4.38	3.28	16	1.93	----
65968	2	5.41	3.98	8	3.12	----
65969	2-1/2	6.25	4.73	4	5.61	----
65970	3	7.26	5.55	2	8.36	----
65971	4	8.98	6.97	2	14.88	----

### LOCKNUTS



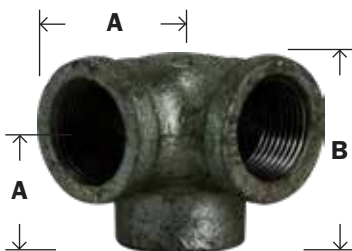
PART # GALV		SIZE	A HEX	THICK-NESS	BOX/CASE	WEIGHT	PART # BLACK	
64703	----	1/2		0.31	150/600	0.08	65703	----
64704	----	3/4		0.34	90/360	0.13	65704	----
64705	----	1		0.38	60/240	0.19	65705	----
64706	----	1-1/4		0.42	45/180	0.27	65706	----
64707	----	1-1/2		0.47	45/135	0.47	65707	----
64708	----	2		0.53	25/75	0.56	65708	----

### RIGHT & LEFT COUPLINGS



PART # GALV		SIZE	A	CASE	WEIGHT	PART # BLACK	
64573	----	1/2	1.34	240	0.19	65573	----
64574	----	3/4	1.52	150	0.28	65574	----
64575	----	1	1.67	100	0.45	65575	----
64576	----	1-1/4	1.93	64	0.66	65576	----
64577	----	1-1/2	2.15	36	0.84	65577	----
64578	----	2	2.53	24	1.39	65578	----

### SIDE OUTLET ELBOW



PART # GALV		SIZE	A	B	CASE	PART # BLACK	
64583	----	1/2	1.10		135	65583	----
64584	----	3/4	1.30		80	65584	----
64585	----	1	1.50		40	65585	----
64586	----	1-1/4	1.77		30	65586	----
64587	----	1-1/2	1.97		24	65587	----
64588	----	2	2.29		10	65588	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK AND GALVANIZED IRON #150

## NIPPLES AND FITTINGS

### FLOOR FLANGES



PART # GALVANIZED		SIZE	A	THICKNESS	HOLE SIZE	BOX/CASE	APPROX. WT. LBS.	PART # BLACK	
64692	----	1/2"	3.50	0.50	0.25	25/100	.63	65692	----
64693	----	3/4"	3.50	0.63	0.25	15/45	.73	65693	----
64694	----	1"	4.00	0.69	0.25	15/45	1.02	65694	----
64695	----	1-1/4"	4.00	0.75	0.25	15/30	1.00	65695	----
64696	----	1-1/2"	4.50	0.87	0.31	8/24	1.37	65696	----

### EXTENSION FIP X MIP



PART #	SIZE	APPROX. WT. LBS.	BOX/CASE	
65621	1/2"	0.12	75 / 300	----
65622	3/4"	0.23	40 / 160	----

### MUSHROOM VENT CAP

Cast Iron Galvanized Threaded Cap. 30 Mesh screen. Protects against driving rain, snow, sleet and insects.



PART #	SIZE	
21174	3/4"	----
21175	1"	----
21176	1-1/2"	----
21177	1-1/2"	----
21178	2"	----
21179	3"	----
21180	4"	----



DOUBLE TAPPED BUSHINGS



DUPLEX TANK BUSHINGS



WASTE NUT

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL FITTINGS

## NIPPLES AND FITTINGS

# STEEL FITTINGS

This will certify that the material was manufactured in accordance with ASME B16.14 - 1991 Standards. All Threads are Dryseal (NPTF) - 3/4 inch taper per foot and are made of Carbon Steel 12L14. Pressure rating: 150/300 PSI

- Clear Zinc plating specifications ASTM B633-07
- Federal Specification QQ-Z-325 (Zinc Plate)
- Type III with supplemental clear Trivalent chromate
- .00015" Zinc (Minimum)
- ROHS Compliant
- Lead Free

### HEX BUSHINGS



PART # ZINC		SIZE M X F	A	HEX	APPROX. WT. LBS.	PART # BLACK	
66500	----	1/4" x 1/8"	0.63	0.62	0.02	67500	----
66501	----	3/8" x 1/8"	0.66	0.68	0.04	67501	----
66502	----	3/8" x 1/4"	0.66	0.68	0.02	67502	----
66503	----	1/2" x 1/8"	0.80	0.87	0.10	67503	----
66504	----	1/2" x 1/4"	0.80	0.87	0.08	67504	----
66505	----	1/2" x 3/8"	0.80	0.87	0.06	67505	----
66506	----	3/4" x 1/8"	0.94	1.06	0.18	67506	----
66507	----	3/4" x 1/4"	0.94	1.06	0.14	67507	----
66508	----	3/4" x 3/8"	0.94	1.06	0.14	67508	----
66509	----	3/4" x 1/2"	0.94	1.06	0.10	67509	----
66510	----	1" x 1/4"	1.00	1.31	0.16	67510	----
66511	----	1" x 3/8"	1.00	1.31	0.26	67511	----
66512	----	1" x 1/2"	1.00	1.31	0.22	67512	----
66513	----	1" x 3/4"	1.00	1.31	0.14	67513	----
		1-1/4" x 1/8"	1.08	1.31	0.16	67514	----

### FACE BUSHING



PART # ZINC		SIZE M X F	A	APPROX. WT. LBS.	PART # BLACK	
66700	----	1/4" x 1/8"	0.44	0.01	67700	----
66701	----	3/8" x 1/8"	0.48	0.02	67701	----
66702	----	3/8" x 1/4"	0.48	0.02	67702	----
		1/2" x 1/8"	0.56	0.04	67703	----
66704	----	1/2" x 1/4"	0.56	0.04	67704	----
66705	----	1/2" x 3/8"	0.56	0.04	67705	----
		3/4" x 1/4"	0.62	0.12	67707	----
66708	----	3/4" x 3/8"	0.62	0.10	67708	----
66709	----	3/4" x 1/2"	0.62	0.10	67709	----
		1" x 3/8"	0.75	0.18	67711	----
66712	----	1" x 1/2"	0.75	0.16	67712	----
66713	----	1" x 3/4"	0.75	0.16	67713	----

### CAPS



PART # ZINC		SIZE NPTF	A	HEX	APPROX. WT. LBS.	PART # BLACK	
66470	----	1/8"	0.53	0.56	0.02	67470	----
66471	----	1/4"	0.63	0.62	0.04	67471	----
66472	----	3/8"	0.69	0.81	0.06	67472	----
66473	----	1/2"	0.87	1.00	0.12	67473	----
66474	----	3/4"	0.97	1.18	0.16	67474	----
66475	----	1"	1.16	1.50	0.30	67475	----
66476	----	1-1/4"	1.28	2.00	0.68	67476	----
66477	----	1-1/2"	1.35	2.25	0.83	67477	----
66478	----	2"	1.45	2.625	1.36		

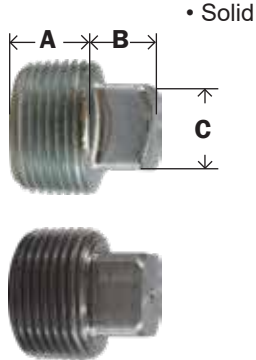
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL FITTINGS

## NIPPLES AND FITTINGS

This will certify that the plugs are dimensional per SAE J531 MAY 95 Standards. All threads are Dryseal (NPTF) - 3/4" Taper per foot and are made of SAE J403 Low Carbon Steel 1010 Cold headed.

### SQUARE HEAD PLUGS



• Solid

PART # ZINC		SIZE NPTF	A	B	C	APPROX. WT. LBS.	PART # BLACK	
		1/16"	0.33	0.18	0.22	0.01	67669	----
66670	----	1/8"	0.33	0.24	0.28	0.01	67670	----
66671	----	1/4"	0.45	0.28	0.37	0.02	67671	----
66672	----	3/8"	0.50	0.31	0.43	0.04	67672	----
66653	----	1/2"	0.59	0.38	0.55	0.12	67653	----
66654	----	3/4"	0.63	0.44	0.62	0.18	67654	----
66655	----	1"	0.75	0.5	0.81	0.34	67655	----
66656	----	1-1/4"	0.80	0.56	0.93	0.62	67656	----
66657	----	1-1/2"	0.83	0.62	1.12	0.82	67657	----
66658	----	2"	0.88	0.68	1.31	1.36	67658	----

### HEX HEAD PLUGS



• Solid

Hex

PART # ZINC		SIZE NPTF	A	HEX	APPROX. WT. LBS.	PART # BLACK	
66770	----	1/8"	0.55	0.43	0.01	67770	----
66771	----	1/4"	0.74	0.56	0.04	67771	----
66772	----	3/8"	0.67	0.68	0.06	67772	----
66773	----	1/2"	0.80	0.70	0.12	67773	----
66774	----	3/4"	0.94	1.06	0.18	67774	----
66775	----	1"	1.00	1.31	0.22	67775	----
66776	----	1-1/4"	1.17	1.75	0.7	67776	----
66777	----	1-1/2"	1.51	2.00	1.2	67777	----
66778	----	2"	1.65	2.50	2.06	67778	----

### COUNTERSUNK PLUG - Square Socket



PART # ZINC		SIZE NPTF	A	SOCKET SIZE	APPROX. WT. LBS.	PART # BLACK	
66630	----	1/8"	0.29	0.19	0.01	67630	----
66631	----	1/4"	0.45	0.25	0.02	67631	----
66632	----	3/8"	0.45	0.31	0.04	67632	----
66633	----	1/2"	0.59	0.38	0.08	67633	----
66634	----	3/4"	0.60	0.50	0.12	67634	----
66635	----	1"	0.75	0.50	0.16	67635	----
66636	----	1-1/4"	0.80	0.75	0.32	67636	----
66637	----	1-1/2"	0.83	0.75	0.45	67637	----
66638	----	2"	0.88	0.875	2.06	67638	----

### COUNTERSUNK PLUG - Hex Socket



PART # ZINC		SIZE NPTF	A	SOCKET SIZE	APPROX. WT. LBS.	PART # BLACK	
66760	----	1/16"	0.29	0.15	0.01	67760	----
66761	----	1/8"	0.29	0.18	0.01	67761	----
66762	----	1/4"	0.44	0.25	0.02	67762	----
66763	----	3/8"	0.44	0.31	0.04	67763	----
66764	----	1/2"	0.59	0.37	0.08	67764	----
66765	----	3/4"	0.60	0.56	0.14	67765	----
66766	----	1"	0.75	0.625	0.22	67766	----
66767	----	1-1/4"	0.80	0.75	0.37	67767	----
66768	----	1-1/2"	0.83	1.0	0.45	67768	----
66769	----	2"	0.88	1.0	0.86	67769	----

• Slotted and Flush plugs available upon request

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# BLACK EXTRA HEAVY 300# IRON

## NIPPLES AND FITTINGS

### 300# MALLEABLE

#### 90° ELBOW



PART #	SIZE	
69101	1/4"	----
69102	3/8"	----
69103	1/2"	----
69104	3/4"	----
69105	1"	----
69106	1-1/4"	----
69107	1-1/2"	----
69108	2"	----

#### 45° ELBOW



PART #	SIZE	
69181	1/4"	----
69182	3/8"	----
69183	1/2"	----
69184	3/4"	----
69185	1"	----
69186	1-1/4"	----
69187	1-1/2"	----
69188	2"	----

#### 90° STREET ELBOW



PART #	SIZE	
69161	1/4"	----
69162	3/8"	----
69163	1/2"	----
69164	3/4"	----
69165	1"	----
69166	1-1/4"	----
69167	1-1/2"	----
69168	2"	----

#### TEE



PART #	SIZE	
69252	3/8"	----
69253	1/2"	----
69254	3/4"	----
69255	1"	----
69256	1-1/4"	----
69257	1-1/2"	----
69258	2"	----

#### COUPLING



PART #	SIZE	
69411	1/4"	----
69412	3/8"	----
69413	1/2"	----
69414	3/4"	----
69415	1"	----
69416	1-1/4"	----
69417	1-1/2"	----
69418	2"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLACK EXTRA 300# IRON

## NIPPLES AND FITTINGS

### REDUCING COUPLING



PART #	SIZE	
69432	3/8 x 1/4"	----
69434	1/2 x 1/4"	----
69435	1/2 x 3/8"	----
69438	3/4 x 1/2"	----
69441	1 x 1/2"	----
69442	1 x 3/4"	----

### CAP



PART #	SIZE	
69471	1/4"	----
69472	3/8"	----
69473	1/2"	----
69474	3/4"	----
69475	1"	----
69476	1-1/4"	----
69477	1-1/2"	----
69478	2"	----

### UNION

• Brass Seat



PART #	SIZE	
69600	1/8"	----
69601	1/4"	----
69602	3/8"	----
69603	1/2"	----
69604	3/4"	----
69605	1"	----
69606	1-1/4"	----
69607	1-1/2"	----
69608	2"	----

## STEEL MAGNETIC PLUGS

### Steel Magnetic Drain Plugs - NPT Threaded

**Magnetic Drain Plugs** are similar to standard pipe or straight thread drain plugs with one important difference - a permanent magnet is fastened to the plug body. This magnet attracts and holds abrasive, ferrous metal particles preventing their circulation through the lubrication or hydraulic system.

These abrasive, ferrous metal particles appear in lubricating or hydraulic systems as a result of the following conditions:

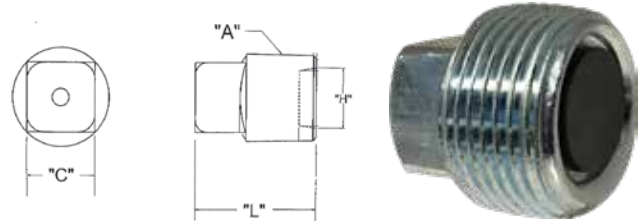
- The constant flaking effect of normal wear of moving parts.
- Particles not removed by flushing operations after boring or machining.
- Chipping due to sub-surface casting flaws.
- Minute component breakdown caused by stress usage.

**Magnetic Drain Plugs** prevent excessive wear to the system's components.

**Magnetic Plugs** are used by numerous manufacturers of gear boxes, transmissions, engines, and hydraulic systems for the automotive, aircraft, agricultural and machinery industries.

Typical applications include:

- Outboard Engines
- Earthmoving Equipment
- Combines
- Balers
- Crawler Tractors
- Lift Trucks
- Mining Equipment
- Military Vehicles
- Turbine Engines
- Truck Axles
- Heavy-Duty Transmissions



PART	SIZE "A"	HEAD WIDTH "C"	RECESS DIA. "H"	O/L LENGTH "L"	
28996	3/8 - 18	.428 - .440	.435 - .445	.805 - .860	----
28997	1/2 - 14	.553 - .565	.560 - .570	.970 - 1.04	----
28998	3/4 - 14	.615 - .627	.725 - .735	1.120 - 1.170	----
28999	1-11 1/2	.803 - .815	.895 - .905	1.25 - 1.33	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

NIPPLES & FITTINGS

# BULL PLUGS AND SWAGS

## NIPPLES AND FITTINGS

# BULL PLUGS AND SWAGES

### STANDARD BULL PLUG

- Sch 40 150#
- Zinc plated



PART #	DESCRIPTION	
91008	2"	----
91007	2" w/ 1/2" TAP	----
91009	2-1/2"	----
91010	3"	----
91011	4"	----

### XH BULL PLUG

- Made from sch. 80 pipe.
- Zinc plated
- Hollow



PART #	DESCRIPTION	
90001	1/4"	----
90002	3/8"	----
90003	1/2"	----
90004	3/4"	----
90005	1"	----
90006	1-1/4"	----
90007	1-1/2"	----
90008	2"	----
93001*	2"	----
90213	2" w/ 1/4" TAP	----
90212	2" w/ 1/2" TAP	----
93212*	2"XXH w/1/2" TAP	----
90009	2-1/2"	----
90010	3"	----
90215	3" w/ 1/2" TAP	----
90011	4"	----

\* XXH

### STANDARD SCH. 40 SWAGE

#### MIP X MIP

- Zinc plated



PART #	DESCRIPTION	
93113	1-1/4" x 1"	----
93121	2" x 1"	----
93122	2" x 1-1/4"	----
93123	2" x 1-1/2"	----
93124	2-1/2" x 2"	----
93125	3" x 1"	----
93127	3" x 1-1/2"	----
93128	3" x 2"	----
93129	3" x 2-1/2"	----
93130	4" x 2"	----
93131	4" x 3"	----
93139	6" x 3"	----

**Pressure Ratings:** Due to the wide variation in service conditions, temperature, vibrations, etc...We can make no recommendations as to allowable working pressure of swage nipples and bull plugs. There are a number of working pressure formulas from which the end user may choose to determine the required wall thickness of the piping system. It is our responsibility only to furnish a fitting with end dimensions equal to those of the pipe size and schedule ordered.


**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SWAGES

## NIPPLES AND FITTINGS

### SCH 80 XH SWAGES

#### MIP X MIP



\* Hex Style



### XXH SWAGE



PART #	DESCRIPTION	
90100*	1/4" x 1/8"	----
90102*	1/2" x 1/4"	----
90103*	1/2" x 3/8"	----
90104*	3/8" x 1/4"	----
90105*	3/4" x 1/4"	----
90106*	3/4" x 3/8"	----
90107*	3/4" x 1/2"	----
90108*	1" x 1/4"	----
90109*	1" x 3/8"	----
90110*	1" x 1/2"	----
90111*	1" x 3/4"	----
90140	1-1/4" x 3/4"	----
90141	1-1/4" x 1"	----
90114	1-1/2" x 1/2"	----
90115	1-1/2" x 3/4"	----
90116	1-1/2" x 1"	----
90117	1-1/2" x 1-1/4"	----
90118	2" x 1/4"	----
90119	2" x 1/2"	----
90120	2" x 3/4"	----
90121	2" x 1"	----
90122	2" x 1-1/4"	----
90123	2" x 1-1/2"	----
90124	2-1/2" x 2"	----
90125	3" x 1"	----
90126	3" x 1-1/4"	----
90127	3" x 1-1/2"	----
90128	3" x 2"	----
90129	3" x 2-1/2"	----
90133	4" x 1"	----
90130	4" x 2"	----
90131	4" x 3"	----
90132	6" x 4"	----
90150	6" x 2"	----
90152	6" x 3"	----

PART #	DESCRIPTION	
92102*	1/2" x 1/4"	----
92107*	3/4" x 1/2"	----
92108*	1" x 1/4"	----
92109*	1" x 3/8"	----
92110*	1" x 1/2"	----
92111*	1" x 3/4"	----
92114	1-1/2" x 1/2"	----
92115	1-1/2" x 3/4"	----
92116	1-1/2" x 1"	----
92119	2" x 1/2"	----
92120	2" x 3/4"	----
92121	2" x 1"	----
92122	2" x 1-1/4"	----
92123	2" x 1-1/2"	----
92128	3" x 2"	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

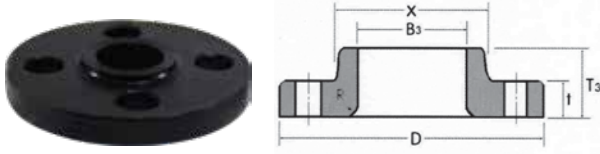
# FORGED STEEL FLANGES

NIPPLES AND FITTINGS

ASTMA105  
ASME SA105  
ANSI B16.5

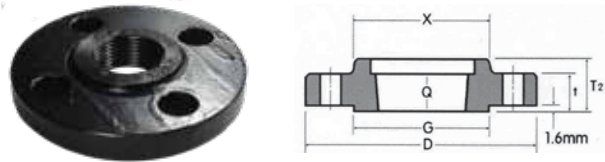
# CARBON STEEL FLANGES

• A105 Forged Steel • CLASS 150  
( 1-1/2 thru 6" available in #316 Stainless Steel add SS to part# )



**SLIP-ON 1/16" RAISED FACE CARBON STEEL FLANGE**

PART #	SIZE	
107020	1/2"	----
107021	3/4"	----
107022	1"	----
107023	1-1/4"	----
107024	1-1/2"	----
107025	2"	----
107026	2-1/2"	----
107027	3"	----
107029	4"	----
107031	6"	----
107032	8"	----
107033	10"	----
107034	12"	----



**THREADED 1/16" RAISED FACE CARBON STEEL FLANGE**

PART #	SIZE	
107060	1/2"	----
107061	3/4"	----
107062	1"	----
107063	1-1/4"	----
107064	1-1/2"	----
107065	2"	----
107066	2-1/2"	----
107067	3"	----
107069	4"	----
107071	6"	----
107072	8"	----
107073	10"	----
107074	12"	----

Nominal Pipe Size	Depth of Socket in. Y	Bolt Circle Diameter	Number of Holes	Diameter of Holes	Diameter of Bolts (inch)	Machine Bolt Length			Welding Neck LBS	Slip-on and Threaded LBS	Blind LBS
						Raised Face	Raised Face	Ring Joint			
1/2	.382	2.382	4	.618	1/2	2.00	2.252	-	1.146	1.036	1.036
3/4	.441	2.752	4	.618	1/2	2.00	2.50	-	2.028	1.653	1.389
1	.500	3.118	4	.618	1/2	2.252	2.50	3.00	2.425	1.893	2.094
1-1/4	.559	3.50	4	.618	1/2	2.252	2.752	3.252	3.086	3.086	3.086
1-1/2	.618	3.882	4	.618	1/2	2.50	2.752	3.252	3.99	3.109	3.571
2	.689	4.752	4	.752	5/8	2.752	3.252	3.752	6.173	4.982	5.82
2-1/2	.752	5.5	4	.752	5/8	3.00	3.50	4.00	9.436	7.562	8.951
3	.811	6.0	4	.752	5/8	3.00	3.50	4.00	11.42	8.818	11.023
4	.941	7.50	8	.752	5/8	3.00	3.50	4.00	16.138	12.677	16.535
6	1.059	9.50	8	.882	3/4	3.252	4.00	4.50	24.824	17.196	26.455
8	1.252	11.752	8	.882	3/4	3.50	4.252	4.752	39.683	28.66	44.092
10	1.311	14.252	12	1.00	7/8	4.00	4.50	5.00	55.116	37.699	66.139
12	1.559	17	12	1.00	7/8	4.00	4.752	5.252	85.936	61.024	97.003

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FORGED STEEL FLANGES

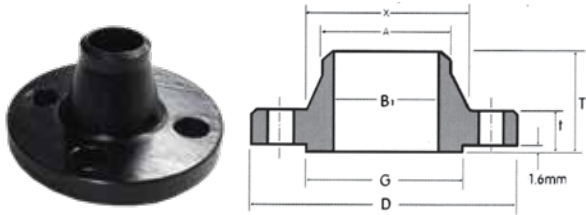
## NIPPLES AND FITTINGS

ASTMA105  
ASME SA105  
ANSI B16.5

• A105 Forged Steel

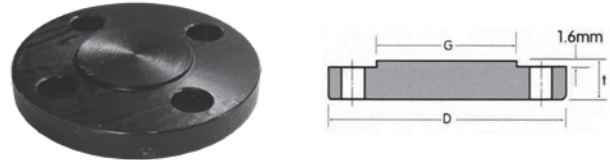
• CLASS 150

( 1-1/2 thru 6" available in #316 Stainless Steel add SS to part# )



**WELD NECK CARBON STEEL FLANGE**

Part #	Size	
107000	1/2"	----
107001	3/4"	----
107002	1"	----
107003	1-1/4"	----
107004	1-1/2"	----
107005	2"	----
107006	2-1/2"	----
107007	3"	----
107009	4"	----
107011	6"	----
107012	8"	----
107013	10"	----
107014	12"	----



**BLIND 1/16" RAISED FACE CARBON STEEL FLANGE**

PART #	SIZE	
107040	1/2"	----
107041	3/4"	----
107042	1"	----
107043	1-1/4"	----
107044	1-1/2"	----
107045	2"	----
107046	2-1/2"	----
107047	3"	----
107049	4"	----
107051	6"	----
107052	8"	----
107053	10"	----
107054	12"	----

Nominal Pipe Size	Outside Diameter	O.D of Raised Face	Diameter at Base of Hub	Thickness	Welding Neck Socket Welding	Welding Neck	Slip-on Threaded Socket Welding
	D	G	X		T	B1	T1
1/2	3.504	1.382	1.189	.441	.618	1.882	.618
3/4	3.898	1.689	1.50	.50	.819	2.059	.618
1	4.252	2.00	1.941	.559	1.051	2.189	.689
1-1/4	4.606	2.50	2.311	.618	1.382	2.252	.811
1-1/2	5.00	2.882	2.559	.689	1.610	2.441	.882
2	5.984	3.618	3.059	.752	2.071	2.50	1.00
2-1/2	7.008	4.118	3.559	.882	2.469	2.752	1.118
3	7.52	5.00	4.252	.941	3.071	2.752	1.189
4	9.016	6.189	5.311	.941	4.031	3.00	1.311
6	10.984	8.50	7.559	1.00	6.071	3.50	1.559
8	13.504	10.618	9.689	1.118	7.980	4.00	1.752
10	15.984	12.752	12.00	1.189	10.02	4.00	1.941
12	19.016	15.00	14.382	1.252	12.00	4.50	2.189

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# HAMMER UNIONS

NIPPLES AND FITTINGS

## HAMMER UNIONS

FIG 100

Economical and for use in water, oil and gas low pressure applications up to 1,000 PSI CWP. Color coded with Yellow subs and Black nut.



PART#	SIZE	
HAM100-200-SET	2"	----
HAM100-300-SET	3"	----
HAM100-400-SET	4"	----
HAM100-600-SET	6"	----
HAM100-800-SET	8"	----
HAM100-1000-SET	10"	----

FIG 200/ 206

Medium pressure for use in water, oil and gas applications up to 2,000 PSI CWP. Color coded with Grey subs and Blue Nut. The O-Ring in the Male Sub of the FIG206 spec provides greater sealing and protects metal-to-metal seal against corrosion.



PART# FIG 200	SIZE	
HAM200-100-SET	1"	----
HAM200-200-SET	2"	----
HAM200-300-SET	3"	----
HAM200-400-SET	4"	----
HAM200-500-SET	5"	----
PART# FIG 206		
HAM206-200-SET	2"	----
HAM206-300-SET	3"	----
HAM206-400-SET	4"	----
HAM206-500-SET	5"	----
HAM206-600-SET	6"	----
HAM206-800-SET	8"	----

## CRIMPLOK HAMMER UNIONS

### HAMMER UNION

Our hose barb union is constructed of high quality forged steel. The integral hose shank is featured on both the male and female subs. Both time and money is saved by combining the unions with the integral shanks. No more welding hammer unions to combination nipples. Fig100 (black nut) configurations for dewatering applications and fig 200/206 (blue nut) configurations for Frac and Steam applications where a gasket seal is preferred. The union end connection is interchangeable with all major hammer union manufacturers products



PART#	SIZE	
HAM206-400CR-SET	4"	----



PART#	SIZE	
HAM100-400CR-SET	4"	----
HAM100-600CR-SET	6"	----

# COPPER FITTINGS



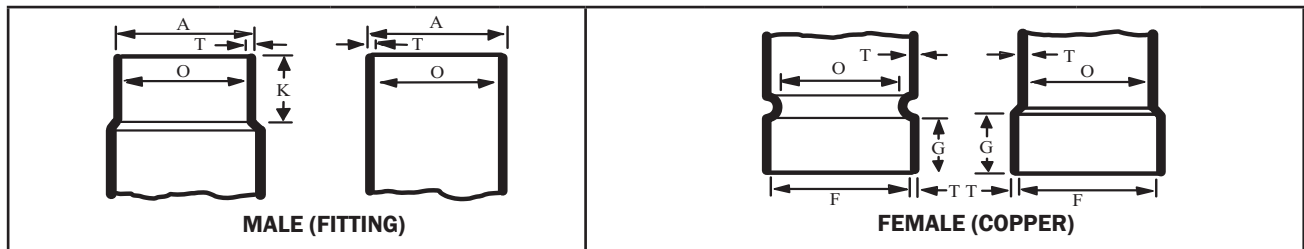
**SYMBOL OF JOINT ENDS**

- C** Solder joint fitting end made to receive copper tube diameter
- Ftg.** Solder joint fitting end made to copper tube diameter
- F** Internal ANSI Standard Taper Pipe Thread-Female
- M** External ANSI Standard Taper Pipe Thread-Male  
Threaded ends ANSI/ ASME B1. Solder ends ASTM B88

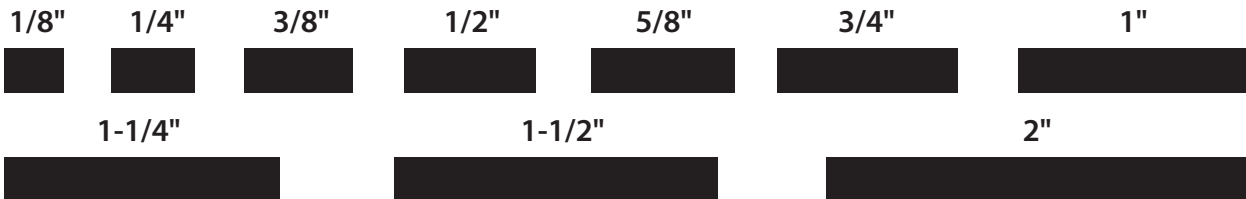
- Temp range 32° to 200°F
- Pressure @100° - 1/8-1 : 500 PSI  
- 1-1/4-2 : 400 PSI  
- 2-1/2 - 3: 300 PSI

**NSF - 61 CERTIFIED  
ALLOY C12200**

**THE ABOVE CONFORMS TO ASTM B 88 & ASTM B 306, A 306**



Nom- inal Size	Joint Ends										Metal Thick- ness T (in)	Inside Diam- eter O (in)
	Male End					Female End						
	Outside Diam- eter (A) in	Average Toler- ance (mm)	Ac- tual MIN in	O.D. MAX in		Inside Diam- eter F (in)	Average Toler- ance (mm)	Ac- tual MIN in	O.D. MAX in			
1/8	2/8	0.03	2/8	2/8	3/8	2/8	0.03	2/8	2/8	3/8	0	2/8
1/4	3/8		3/8	3/8	3/8	3/8		3/8	3/8	3/8	0	2/8
3/8	4/8		4/8	4/8	3/8	4/8		4/8	4/8	3/8	0	3/8
1/2	5/8		5/8	5/8	4/8	5/8		5/8	5/8	3/8	0	4/8
5/8	6/8		6/8	6/8	5/8	6/8		6/8	6/8	5/8	0	4/8
3/4	7/8		7/8	7/8	6/8	7/8		7/8	7/8	5/8	0	5/8



# WROT SOLDER JOINT

## NIPPLES AND FITTINGS

### 90° ELL C X C



PART#	NOMINAL (ID)	OD	APPROX NET WT.	IND #	
77100	1/8"	1/4"	0.01	W 02003	----
77101	1/4"	3/8"	0.01	W 02009	----
77102	3/8"	1/2"	0.03	W 02017	----
77104	1/2"	5/8"	0.04	W 02022	----
77107	5/8"	3/4"	0.07	W 02028	----
77108	3/4"	7/8"	0.09	W 02034	----
77110	1"	1-1/8"	0.17	W 02047	----
77113	1-1/4"	1-3/8"	0.27	W 02077	----
77114	1-1/2"	1-5/8"	0.41	W 02085	----
77116	2"	2-1/8"	0.73	W 02086	----

WE-500-R 607-R 107-C

### 90° STREET ELL FTG. X C



77124	1/4"	3/8"	0.01	W 02312	----
77125	3/8"	1/2"	0.03	W 02321	----
77126	1/2"	5/8"	0.05	W 01652	----
77127	5/8"	3/4"	0.07	W 02330	----
77128	3/4"	7/8"	0.12	W 01654	----
77129	1"	1-1/8"	0.22	W 02344	----
77130	1-1/4"	1-3/8"	0.33	W 02384	----
77131	1-1/2"	1-5/8"	0.45	W 02385	----
77132	2"	2-1/8"	0.87	W 02386	----

### 90° LONG TURN ELL C X C



77139	1/8"	1/4"	0.01	W 02715	----
77140	1/4"	3/8"	0.02	W 02716	----
77141	5/16"		0.03		----
77142	3/8"	1/2"	0.04	W 02717	----
77143	1/2"	5/8"	0.06	W 02722	----
77144	5/8"	3/4"	0.10	W 02728	----
77145	3/4"	7/8"	0.15	W 02734	----

WE-500-L 607-LT 107-L

### 90° LONG TURN ST. ELL FTG. X C



77154	3/8"	1/2"	0.04	W 02817	----
77155	1/2"	5/8"	0.06	W 02822	----
77156	5/8"	3/4"	0.11		----
77157	3/4"	7/8"	0.15		----
77158	1"	1-1/8"	0.33		----
77159	1-1/4"	1-3/8"	0.46	W 02828	----
77160	1-1/2"	1-5/8"	0.64	W 02834	----

WE-503-L 607-2LT

# WROT SOLDER JOINT

## NIPPLES AND FITTINGS

### 45° ELL C X C



PART#	NOMINAL	APPROX NET WT.	IND #	
77161	1/8"	0.01	W 03005	----
77162	1/4"	0.01	W 03012	----
77163	3/8"	0.02	W 03021	----
77164	1/2"	0.04	W 03026	----
77165	5/8"	0.06	W 03030	----
77166	3/4"	0.10	W 03034	----
77167	1"	0.19	W 03044	----
77168	1-1/4"	0.27	W 03050	----
77169	1-1/2"	0.39	W 03055	----
77170	2"	0.75	W 03059	----

WE-504 606 106

### STREET 45° FTG. X C



77177	1/4"	0.01	W 03312	----
77178	3/8"	0.02	W 03321	----
77179	1/2"	0.06	W 03326	----
77180	5/8"	0.06	W 03330	----
77181	3/4"	0.10	W 03334	----
77182	1"	0.18	W 03344	----
77183	1-1/4"	0.27	W 03350	----
77184	1-1/2"	0.38	W 03355	----
77185	2"	0.75	W 03359	----

WE-505 606-2

### COUPLING (SOCKET) W/ ROLLED UP TUBE STOP C X C



77201	1/8"	0.01	W 01003	----
77202	1/4"	0.01	W 01009	----
77203	3/8"	0.02	W 01017	----
77204	1/2"	0.03	W 01022	----
77205	5/8"	0.04	W 01028	----
77206	3/4"	0.06	W 01034	----
77207	1"	0.10	W 01047	----
77208	1-1/4"	0.15	W 01055	----
77209	1-1/2"	0.22	W 01063	----
77210	2"	0.39	W 01072	----

WC-400 100

### COUPLING (SOCKET) LESS TUBE STOP C X C



77219	1/8"	0.01	W 01900	----
77220	1/4"	0.01	W 01901	----
77222	1/2"	0.03	W 01903	----
77223	3/4"	0.06	W 01905	----
77224	1"	0.10	W 01906	----
77225	1-1/4"	0.15	W 01907	----
77226	1-1/2"	0.22	W 01908	----

WC-400NS 601

# WROT SOLDER JOINT

## NIPPLES AND FITTINGS

### COUPLING (SOCKET) W/ DIMPLED TUBE STOP C X C



Part#	Nominal	Approx Net Wt.	Ind #	
77238	1/2"	0.03		----
77240	3/4"	0.06		----
77241	1"	0.10		----
77242	1-1/4"	0.15		----
77244	2"	0.39		----

WC-400S

### REDUCER COUPLING W/ STOP C X C



77252	1/4" x 1/8"	0.01	W 01011	----
77254	3/8" x 1/8"			----
77253	3/8" x 1/4"	0.02	W 01019	----
77256	1/2" x 1/4"	0.03	W 01023	----
77255	1/2" x 3/8"	0.03	W 01021	----
77258	5/8" x 1/2"	0.04	W 01025	----
77263	3/4" x 3/8"	0.06	W 01036	----
77262	3/4" x 1/2"	0.06	W 01029	----
77267	1"x1/2"	0.10	W 01049	----
77265	1"x3/4"	0.12	W 01038	----
77270	1 -1/4" x 1/2"	0.14	W 01058	----
77269	1 -1/4" x 3/4"	0.17	W 01056	----
77268	1-1/4" x 1"	0.17	W 01051	----
77273	1 -1/2" x 3/4"	0.25	W 01065	----
77272	1-1/2" x 1"	0.24	W 01064	----
77271	1-1/2" x 1-1/4"	0.24	W 01060	----
77277	2" x 1"	0.48	W 01074	----
77276	2 x 1-1/4"	0.46	W 01073	----
77275	2" x 1-1/2"	0.42	W 01069	----
77280	2-1/2"x2"	0.79	W 01075	----

WC-400R 600-R

### FITTING REDUCER FTG. C X C



77292	3/8" x 1/8"	0.01	W 01314	----
77291	3/8" x 1/4"	0.02	W 01312	----
77294	1/2" x 1/4"	0.03	W 01317	----
77293	1/2" x 3/8"	0.03	W01315	----
77295	5/8" X 1/2"	0.03	W 01320	----
77298	3/4" x 3/8"	0.05	W 01327	----
77297	3/4" x 1/2"	0.06	W 01326	----
77296	3/4" x 5/8"	0.08	W 01325	----
77352	1" x 1/2"	0.10	W 01265	----
77300	1"x3/4"	0.11	W 01337	----
77355	1 -1/4" x 3/4"	0.15	W 01345	----
77354	1-1/4" x 1"	0.17	W 01343	----
77360	1 -1/2" x 1/2"	0.21	W 01355	----
77359	1 -1/2" x 3/4"	0.21	W 01353	----
77358	1-1/2"x1"	0.22	W 01351	----
77357	1 -1/2" X 1-1/4"	0.21	W 01350	----
77365	2" x 1/2"	0.44	W 01364	----
77363	2" x 1"	0.40	W 01360	----
77361	2" x 1-1/2"	0.39	W 01358	----

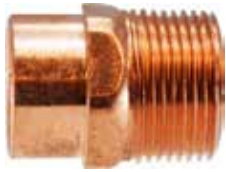
WC-403 600-2



# WROT SOLDER JOINT

## NIPPLES AND FITTINGS

### MALE ADAPTER C X M



PART#	NOMINAL	APPROX NET WT.	IND #	
77393	1/8"	0.02		----
77394	1/4"	0.04		----
77398	3/8"	0.06	W 01125	----
77401	1/2"	0.08	WB01131	----
77306	3/4"	0.14	WB01146	----
77309	1"	0.24	WB01163	----
77314	1-1/4"	0.41	W 01171	----
77318	1-1/2"	0.50	W 01179	----
77322	2"	0.87	W 01187	----
77395	1/4" x 1/2"	0.09	W 01113	----
77308	3/8" x 1/2"			
77311	1/2" x 3/8"	0.18		----
77303	1/2" x 3/4"	0.16	W 01130	----
77315	3/4" x 1/2"	0.31		----
77307	3/4" x 1"	0.29	W 01145	----
77312	1" x 3/4"	0.18	W 01164	----

• 14 more reducing sizes available

WC-401 604

### FTG. MALE ADAPTER FTG. X M



77331	1/2"	0.09	W 01431	----
77333	3/4"	0.15	W 01446	----
77334	1"	0.15	W 01463	----
77335	1-1/4"	0.41	W 01471	----
77336	1-1/2"	0.41	W 0147X9	----
77337	2"	0.86	W 01487	----

WC-404 604-2

## COPPER TUBING

SEE COPPER TUBING FOR REFRIGERATION AND DRINKING WATER ON PAGE 442



Two roads diverged in a wood and I - I took the one less traveled by, and that has made all the difference.

- Robert Frost

# WROT SOLDER JOINT

NIPPLES AND FITTINGS

## FEMALE ADAPTERS C X F



PART#	NOMINAL	APPROX NET WT.	IND #	
77343	1/2"	0.10	WB01231	----
77349	3/4"	0.14	WB01246	----
77402	1"	0.24	WB01263	----
77406	1-1/4"	0.43	W 01271	----
77410	1-1/2"	0.58	W 01279	----
77413	2"	0.74	W 01287	----
77341	3/8" x 1/2"	0.10	W 01224	----
77347	1/2" x 1/4"	0.05	W 01233	----
77346	1/2" x 3/8"	0.70	W 01232	----
77345	1/2" x 3/4"	0.15	WB01230	----

## FEMALE FTG. ADAPT. FTG. X F



77419	3/8"	0.05	W 01525	----
77420	1/2"	0.11	W 01531	----
77423	3/4"	0.19	W 01546	----
77424	1			----

• More sizes available

WC402 603 WC402R 603R

## CAP



77429	1/4"	0.01	W 07004	----
77430	3/8"	0.01	W 07006	----
77431	1/2"	0.02	WB07007	----
77432	5/8"	0.03	W 07008	----
77433	3/4"	0.04	WB07009	----
77434	1"	0.08	WB07011	----
77435	1-1/4"	0.11	W 07012	----
77436	1-1/2"	0.18	W 07013	----
77437	2"	0.30	W 07014	----

WC405 603-2 WC405R 603R

## UNIONS C X C



77453	1/4"	0.11	W 08001	----
77454	3/8"	0.11	W 08002	----
77455LF	1/2"	0.17	W 08003	----
77456LF	3/4"	0.37	W 08004	----
77457LF	1"	0.51	W 08005	----
77606LF	1-1/4"	0.98	W08006	----
77607LF	1-1/2"	1.21	W08007	----
77608LF	2"		W08008	----

• LF = Lead Free

WC-415 617

## U-TYPE STRAP



77461	1/2"	0.03	A 02529	----
77462	3/4"	0.03	A 02574	----
77463	1"	0.04	A 02614	----
77464	1-1/4"	0.04	A 02650	----

WC-407

WS-1100

# WROT SOLDER JOINT

## NIPPLES AND FITTINGS

### TEE C X C X C



PART#	NOMINAL 1 X 2 X 3	APPROX NET WT.	IND #	
77467	1/8"	0.02	W 40306	----
77468	1/4"	0.03	W 04000	----
77470	3/8"	0.05	W 04001	----
77473	1/2"	0.08	WB04006	----
77481	5/8"	0.12	W 04017	----
77483	3/4"	0.18	WB04031	----
77490	1"	0.35	WB04048	----
77504	1-1/4"	0.58	W 04068	----
77519	1-1/2"	0.72	W 04084	----
77543	2"	1.35	W 40102	----
77489	3/4"x1/2"x1/2"	0.15	WB04043	----
77488	3/4" x 1/2" x 3/4"	0.19	WB04041	----
77486	3/4" x 3/4" x 1/2"	0.15	WB04033	----
77485	3/4"x3/4"x1"	0.25	W 04065	----
77501	1"x1/2"x1"	0.34	W 04061	----
77499	1"x3/4"x3/4"	0.31	W 04056	----
77498	1"x3/4"x1"	0.38	W 04055	----
77496	1"x1"x1/2"	0.24	WB04051	----
77493	1"x1"x3/4"	0.29	WB04049	----
77518	1 -1/4" x 1/2" x 1-1/4"	0.58	W 04083	----
77514	1 -1/4" x 3/4" x 1-1/4"	0.63	W 04078	----
77508	1-1/4" x 1-1/4" x 3/4"	0.39	W 04070	----
77507	1-1/4"x1-1/4"x1"	0.47	W 04069	----
77506	1 -1/4" x 1 -1/4" x 1-1/2"	0.79	W 40100	----
77523	1 -1/2" x 1-1/2" x 3/4"	0.51	W 04087	----
77522	1-1/2" x 1-1/2" x 1"	0.60	W 04086	----
77549	2"x2"x1/2"	0.77	W 40107	----
77548	2" x 2" x 3/4"	0.90	W 40106	----
77547	2"x2"x1"	0.99	W 40105	----

WT-600 611

### DROP EAR ELBOWS



• Lead Free Bronze • Lead Free Brass

• Lead Free Brass

• Lead Free Bronze

PART #	SWT X FIP	
44840LF	1/2 x 1/2 Bronze	----
44841LF	1/2 x 1/2 Brass	----
44842LF	3/4 x 1/2 Brass	----
44843LF	3/4 x 3/4 Brass	----

PART #	SWT X SWT	
44844LF	1/2 x 1/2	----

PART #	PEX X FIP	
44845LF	1/2 x 1/2	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**PLASTIC FITTINGS**



<p><b>SCH 80 PVC NIPPLES</b></p>  <p>Machined Schedule 80 PVC nipples comply fully with ASTM D2464, threads conform to ASTM F1498, and the pipe is extruded from PVC 1120-1220 meeting ASTM D1784 and meets ASTM D1785, products standard 21-70</p>	<p><b>PIPE FITTINGS</b></p>  <ul style="list-style-type: none"> <li>• Nylon</li> <li>• Polyethylene</li> <li>• Polypropylene</li> </ul>	<p><b>HOSE BARB FITTINGS</b></p>  <ul style="list-style-type: none"> <li>• Nylon</li> <li>• Polyethylene</li> <li>• Polypropylene</li> </ul>
<p><b>GARDEN HOSE FITTINGS</b></p>  <ul style="list-style-type: none"> <li>• Nylon</li> </ul>	<p><b>NYLON &amp; POLYPROPYLENE COMPRESSION FITTINGS</b></p>  <p>Machined Schedule 80 PVC nipples comply fully with ASTM D2464,</p>	<p><b>POLYPROPYLENE PUSH-IN TUBE FITTINGS AND VALVES</b></p>  <ul style="list-style-type: none"> <li>• NSF 61 certified for use with drinking (potable) water</li> <li>• Max Temperature: 140°F</li> <li>• Max Pressure: Not Rated</li> </ul>
<p><b>SCH 40 PVC FITTINGS</b></p>  <ul style="list-style-type: none"> <li>• NSF 61 certified for use with drinking (potable) water</li> <li>• Max Temperature: 140°F</li> <li>• Max Pressure: Not Rated</li> </ul> <p>Resistant to corrosion, strong and rigid - commonly used in low pressure plumbing applications. ASTM D1784 and D2466.</p>	<p><b>SCH 80 PVC FITTINGS</b></p>  <p>PVC Material is Type 1 according to the American Society for Testing Materials (ASTM) D-1784. Fittings conform to ASTM D-2464 &amp; ASTM D-2467. Temperature rating is 140°F. PSI is based on water at 73°F. Derate 50% at 110°F and 78% at 140°F. Not recommended for use in compressed air or gas systems.</p>	

**PLASTIC PIPE****PLASTIC FITTINGS****SCHEDULE 80 PVC NIPPLES**

Machined Schedule 80 PVC nipples comply fully with ASTM D2464, threads conform to ASTM F1498, and the pipe is extruded from PVC 1120-1220 meeting ASTM D1784 and meets ASTM D1785, products standard 21-70



- Dark Grey
- NSF-61 Cert.

**1/2" DIAMETER 420 PSI**

PART #	LENGTH	
55060	X Close (1-1/8")	----
55061	1-1/2"	----
55062	2"	----
55063	2-1/2"	----
55064	3"	----
55065	3-1/2"	----
55066	4"	----
55067	4-1/2"	----
55068	5"	----
55069	5-1/2"	----
55070	6"	----
55072	8"	----
55074	10"	----
55075	12"	----
55076	12"	----
55240	18"	----
55241	24"	----
55243	36"	----
55244	48"	----
55245	60"	----

**3/4" DIAMETER 340 PSI**

PART #	LENGTH	
55080	x Close (1-3/8")	----
55081	1-1/2"	----
55082	2"	----
55083	2-1/2"	----
55084	3"	----
55085	3-1/2"	----
55086	4"	----
55087	4-1/2"	----
55088	5"	----
55089	5-1/2"	----
55090	6"	----
55092	8"	----
55093	10"	----
55096	12"	----
55097	18"	----
55098	24"	----
55099	36"	----
55246	48"	----
55247	60"	----

**1" DIAMETER 315 PSI**

PART #	LENGTH	
55100	X Close (1-1/2")	----
55101	2"	----
55102	2-1/2"	----
55103	3"	----
55104	3-1/2"	----
55105	4"	----
55106	4-1/2"	----
55107	5"	----
55108	5-1/2"	----
55109	6"	----
55111	8"	----
55115	12"	----
55116	18"	----
55117	36"	----
55118	48"	----

**1-1/4" DIAMETER 210 PSI**

PART #	LENGTH	
55120	X Close (1-5/8")	----
55121	2"	----
55122	2-1/2"	----
55123	3"	----
55124	3-1/2"	----
55125	4"	----
55126	4-1/2"	----
55127	5"	----
55128	5-1/2"	----
55129	6"	----
55131	8"	----
55132	12"	----
55133	18"	----
55134	36"	----
55135	48"	----



# PLASTIC PIPE

## PLASTIC FITTINGS

### 1-1/2" DIAMETER 234 PSI

Part #	Length	
55140	X Close (1-5/8")	----
55141	2"	----
55142	2-1/2"	----
55143	3"	----
55144	3-1/2"	----
55145	4"	----
55146	4-1/2"	----
55147	5"	----
55148	5-1/2"	----
55149	6"	----
55150	8"	----
55151	12"	----
55152	18"	----
55153	24"	----
55154	36"	----
55155	48"	----

### 2" DIAMETER 200 PSI

Part #	Length	
55160	X Close (2")	----
55161	2-1/2"	----
55162	3"	----
55163	3-1/2"	----
55164	4"	----
55165	4-1/2"	----
55166	5"	----
55167	5-1/2"	----
55168	6"	----
55170	8"	----
55174	12"	----
55175	18"	----
55176	24"	----
55177	36"	----
55178	48"	----
55179	60"	----

### 2-1/2" DIAMETER

Part #	Length	Box/Case	
55180	x Close (2")	25	----
55181	3"	30	----
55182	4"	25	----
55183	5"	25	----
55184	6"	25	----
55185	8"	16	----
55186	10"	16	----
55187	12"	16	----
55190	18"	20	----
55191	24"	10	----
55192	36"	3	----
55193	48"	3	----
55194	60"		----

### 3" DIAMETER

Part #	Length	Box Qty	
55200	x Close	25	----
55201	3"	20	----
55203	4"	30	----
55205	5"	20	----
55207	6"	20	----
55209	8"	10	----
55211	10"	10	----
55213	12"	10	----
55214	18"		----
55215	24"		----
55216	36"		----
55217	48"		----
55218	60"		----

### 4" DIAMETER

Part #	Length	Box Qty	
55230	x Close	25	----
55231	4"	18	----
55232	5"	20	----
55233	6"	20	----
55234	8"	10	----
55235	12"	10	----
55236	18"		----
55237	24"		----
55238	36"		----
55239	48"		----
55242	60"		----

If there were no night, we would not appreciate the day, nor could we see the stars and the vastness of the heavens. We must partake of the bitter with the sweet. There is a divine purpose in the adversities we encounter every day. They prepare, they purge, they purify, and thus they bless.

- James E. Faust

# PIPE-NYLON POLY

AVAILABLE IN THREE TYPES OF PLASTIC

## (W) White Nylon

Made from virgin grade formulated to resist physical stress and abrasion. This material meets F.D.A. requirements of Code of Federal Regulation part 177.1500 and is therefore suitable for food contact surfaces.

**Temperature Range:** -40°F to 200° F

**Working Pressure:** 125 PSI maximum.

## (B) Black Polyethylene

Made from a high molecular weight linear polyethylene formulated for chemical compatibility and high impact resistance at lower temperatures. Polyethylene is NSF approved for potable water.

**Temperature Range:** -65°F to 190°F

**Working Pressure:** 125 PSI maximum.

## (P) Polypropylene

Made from the finest polypropylene resins. Polypropylene is used for its resistance to a wide range of chemicals. Working pressures decrease as temperatures increase.

•NSF-approved materials

•FDA-approved materials

Note: Do not use with compressed air or gas.

• 10% Fiberglass fill for extra strength

### ELBOW



**P**

#### POLYPROPYLENE ELBOWS

Part #	Size	
28702P	3/8"	----
28704P	3/4"	----



**W**

#### NYLON ELBOWS

Part #	Size	
28701W	1/4"	----
28703W	1/2"	----
28704W	3/4"	----
28705W	1"	----
28706W	1-1/4"	----
28707W	1-1/2"	----

### TEE



**P**

#### POLYPROPYLENE TEES

Part #	Size	
28741P	1/4"	----
28742P	3/8"	----
28743P	1/2"	----
28744P	3/4"	----



**W**

#### NYLON TEES

Part #	Size	
28741W	1/4"	----
28743W	1/2"	----
28744W	3/4"	----
28745W	1"	----
28746W	1-1/4"	----
28747W	1-1/2"	----

### STREET ELBOW



**P**

#### POLYPROPYLENE STREET ELBOW

Part #	Size	
28819P	1/8"	----
28723P	1/2"	----
28820P	2"	----
28821P	3"	----



**W**

#### NYLON STREET ELBOW

Part #	Size	
28819W	1/8"	----
28720W	1/4"	----
28721W	3/8"	----
28723W	1/2"	----
28724W	3/4"	----
28725W	1"	----
28726W	1-1/4"	----
28727W	1-1/2"	----
28820W	2"	----

### HEX HEAD PLUGS

• Cored



**B**

#### POLYETHYLENE PLUGS

Part #	Size	
28601B	1/8"	----
28602B	1/4"	----
28603B	3/8"	----
28604B	1/2"	----
28605B	3/4"	----



**W**

#### NYLON PLUGS

Part #	Size	
28601W	1/8"	----
28602W	1/4"	----
28603W	3/8"	----
28604W	1/2"	----
28605W	3/4"	----
28606W	1"	----
28607W	1-1/4"	----
28608W	1-1/2"	----
28609W	2"	----

# PLASTIC PIPE

## PLASTIC FITTINGS

### HEX BUSHING



#### POLYPROPYLENE BUSHINGS

Part #	Size	
28659P	1/4 x 1/8"	----
28660P	3/8 x 1/8"	----
28661P	3/8 x 1/4"	----
28811P	1/2 x 1/8"	----
28663P	1/2 x 1/4"	----
28664P	1/2 x 3/8"	----
28666P	3/4 x 1/4"	----
28668P	3/4 x 1/2"	----
28812P	1 x 3/8"	----
28671P	1 x 1/2"	----
28672P	1 x 3/4"	----
28675P	1-1/4" x 1"	----
28814P	1-1/2" x 1/2"	----
28678P	1-1/2 x 3/4"	----
28680P	1-1/2 x 1-1/4"	----
28816P	2 x 1-1/4"	----



#### NYLON BUSHINGS

Part #	Size	
28659W	1/4 x 1/8"	----
28660W	3/8 x 1/8"	----
28661W	3/8 x 1/4"	----
28811W	1/2 x 1/8"	----
28663W	1/2 x 1/4"	----
28664W	1/2 x 3/8"	----
28665W	3/4 x 1/8"	----
28666W	3/4 x 1/4"	----
28667W	3/4 x 3/8"	----
28668W	3/4 x 1/2"	----
28671W	1 x 1/2"	----
28672W	1 x 3/4"	----
28674W	1-1/4 x 3/4"	----
28675W	1-1/4 x 1"	----
28678W	1-1/2 x 3/4"	----
28679W	1-1/2 x 1"	----
28680W	1-1/2 x 1-1/4"	----
28815W	2" x 1/2"	----
28682W	2 x 3/4"	----
28683W	2 x 1"	----
28685W	2 x 1-1/2"	----

### HEX NIPPLES



#### POLYETHYLENE HEX NIPPLES

Part #	Size	
28611B	1/8"	----
28612B	1/4"	----
28613B	3/8"	----
28614B	1/2"	----



#### POLYPROPYLENE HEX NIPPLES

Part #	Size	
28612P	1/4"	----
28613P	3/8"	----
28614P	1/2"	----
28615P	3/4"	----
28619P	2"	----



#### NYLON HEX NIPPLES

Part #	Size	
28611W	1/8"	----
28612W	1/4"	----
28613W	3/8"	----
28614W	1/2"	----
28615W	3/4"	----
28616W	1"	----
28617W	1 1/4 "	----
28618W	1 1/2"	----

### REDUCER NIPPLES



#### POLYETHYLENE HEX NIPPLES

Part #	Size	
28623B	1/2 x 1/4"	----
28624B	1/2 x 3/8"	----
28628B	3/4 x 3/8"	----
28625B	3/4 x 1/2"	----



#### NYLON REDUCING HEX NIPPLES

Part #	Size	
28620W	1/4 x 1/8"	----
28621W	3/8 x 1/8"	----
28622W	3/8 x 1/4"	----
28623W	1/2 x 1/4"	----
28624W	1/2 x 3/8"	----
28628W	3/4 x 3/8"	----
28625W	3/4 x 1/2"	----
28-663W	1-1/4 x 1"	----

**P** = Polypropylene  
**W** = White Nylon  
**B** = Black Polyethylene

# PLASTIC PIPE/ HOSE BARB

## PLASTIC FITTINGS

### COUPLING

**P**



#### POLYPROPYLENE COUPLINGS

Part #	Size	
28761P	1/4"	----
28762P	3/8"	----
28763P	1/2"	----
28764P	3/4"	----

**W**



#### NYLON COUPLINGS

Part #	Size	
28761W	1/4"	----
28762W	3/8"	----
28763W	1/2"	----
28764W	3/4"	----
28765W	1"	----
28803W	1-1/4"	----
28767W	1-1/2"	----
28768W	2"	----

Accept the things to which fate binds you, and love the people with whom fate brings you together, but do so with all your heart.

- Marcus Aurelius

### PIPE CAP

**W**



#### NYLON CAPS

Part #	Size	
28640W	1/4"	----
28641W	3/8"	----
28642W	1/2"	----
28643W	3/4"	----

### PLASTIC BULKHEAD FITTINGS

**P**



20% Glass Filled Polypropylene w/ Santoprene Gasket

Part #	Fpt	Hole	
28693P	1/2"	1-3/8"	----
28694P	3/4"	1-3/8"	----
28695P	1"	1-3/4"	----
28696P	1-1/4"	2"	----
28697P	1-1/2"	3"	----
28698P	2"	3"	----
28699P	3"	4-1/2"	----

**P** = Polypropylene  
**W** = White Nylon  
**B** = Black Polyethylene

### MALE ADAPTERS

**B**



#### POLYETHYLENE BARB X MALE PIPE

Part #	Size	
33002B	3/16 x 1/8"	----
33003B	3/16 x 1/4"	----
33004B	1/4 x 1/8"	----
33005B	1/4 x 1/4"	----
33006B	1/4 x 3/8"	----
33007B	1/4 x 1/2"	----
33008B	5/16 x 1/8"	----
33009B	5/16 x 1/4"	----
33012B	3/8 x 1/4"	----
33013B	3/8 x 3/8"	----
33014B	3/8 x 1/2"	----
33026B	3/8 x 3/4"	----
33015B	1/2 x 1/4"	----
33016B	1/2 x 3/8"	----
33017B	1/2 x 1/2"	----
33018B	1/2 x 3/4"	----
33019B	5/8 x 3/8"	----
33020B	5/8 x 1/2"	----
33021B	5/8 x 3/4"	----
33022B	3/4 x 1/2"	----
33023B	3/4 x 3/4"	----
33024B	1 x 3/4"	----

**P**



#### POLYPROPYLENE HOSE BARB Hose ID x MIP

Part #	Size	
33012P	3/8 x 1/4"	----
33013P	3/8 x 3/8"	----
33014P	3/8 x 1/2"	----
33015P	1/2 x 1/4"	----
33016P	1/2 x 3/8"	----
33017P	1/2 x 1/2"	----
33018P	1/2 x 3/4"	----
33303P	1/2" x 1"	----
33020P	5/8 x 1/2"	----
33022P	3/4 x 1/2"	----
33023P	3/4 x 3/4"	----
33000P	3/4 x 1"	----
33024P	1 x 3/4"	----
33025P	1 x 1"	----
33323P	3" x 3"	----

# PLASTIC BARBS

## PLASTIC FITTINGS

**W**



**NYLON BARB MALE ADAPTERS**  
Hose ID x MIP

Part #	Size	
33002W	3/16 x 1/8"	----
33003W	3/16 x 1/4"	----
33004W	1/4 x 1/8"	----
33005W	1/4 x 1/4"	----
33006W	1/4 x 3/8"	----
33007W	1/4 x 1/2"	----
33380W	1/4 x 3/4"	----
33008W	5/16 x 1/8"	----
33009W	5/16 x 1/4"	----
33010W	5/16 x 3/8"	----
33011W	3/8 X 1/8"	----
33012W	3/8 x 1/4"	----
33013W	3/8 x 3/8"	----
33014W	3/8 x 1/2"	----
33026W	3/8 x 3/4"	----
33015W	1/2 x 1/4"	----
33016W	1/2 x 3/8"	----
33017W	1/2 x 1/2"	----
33018W	1/2 x 3/4"	----
33303W	1/2" x 1"	----
33019W	5/8 x 3/8"	----
33020W	5/8 x 1/2"	----
33021W	5/8 x 3/4"	----
33306W	3/4" x 3/8"	----
33022W	3/4 x 1/2"	----
33023W	3/4 x 3/4"	----
33000W	3/4 x 1"	----
33318W	3/4" x 1-1/4"	----
33319W	3/4" x 1-1/2"	----
33307W	1" x 1/2"	----
33024W	1 x 3/4"	----
33025W	1 x 1"	----
33029W	1 x 1-1/4"	----
33320W	1" x 1-1/2"	----
33027W	1-1/8" x 1"	----
33349W	1-1/4" x 3/4"	----
33028W	1-1/4 x 1"	----
33030W	1-1/4 x 1-1/4"	----
33032W	1-1/4 x 1-1/2"	----
33321W	1-1/2" x 1-1/4"	----
33033W	1-1/2 x 1-1/2"	----

### ELBOWS

**B**



**POLYETHYLENE ELBOWS**  
Hose ID x MALE PIPE

Part #	Size	
33308B	3/16 x 1/8	----
33038B	1/4 x 1/8	----
33039B	1/4 x 1/4	----
33309B	1/4 x 3/8	----
33046B	3/8 x 1/8	----
33041B	3/8 x 1/4	----
33042B	3/8 x 3/8	----
33047B	3/8 x 1/2	----
33043B	1/2 x 3/8	----
33311B	1/2 x 1/2	----
33385B	1/2 x 3/4	----
33044B	5/8 x 3/8	----
33045B	5/8 x 1/2	----
33312B	5/8 x 3/4	----
33313B	3/4 x 1/2	----
33314B	3/4 x 3/4	----

**P**



**POLYPROPYLENE BARB ELBOW**

Part #	Size	
33048P	1/2 x 1/4	----
33311P	1/2 x 1/2	----
33385P	1/2 x 3/4	----
33313P	3/4 x 1/2	----
33314P	3/4 x 3/4	----
33316P	1 x 1	----
33334P	1-1/4 x 1	----
33461P	1-1/4 x 1-1/4	----
33463P	1-1/2 x 1-1/2	----

**W**



**NYLON BARB X MIP ELBOWS**

Part #	Size	
33381W	3/16 x 1/4	----
33038W	1/4 x 1/8	----
33039W	1/4 x 1/4	----
33309W	1/4 x 3/8	----
33351W	1/4 x 1/2	----
33040W	5/16 x 1/4	----
33310W	5/16 x 3/8	----
33046W	3/8 x 1/8	----
33041W	3/8 x 1/4	----
33042W	3/8 x 3/8	----
33047W	3/8 x 1/2	----
33384W	3/8 x 3/4	----
33048W	1/2 x 1/4	----
33043W	1/2 x 3/8	----
33311W	1/2 x 1/2	----
33385W	1/2 x 3/4	----
33044W	5/8 x 3/8	----
33045W	5/8 x 1/2	----
33312W	5/8 x 3/4	----
33329W	5/8" x 1"	----
33313W	3/4 x 1/2	----
33314W	3/4 x 3/4	----
33315W	3/4 x 1	----
33386W	1x3/4	----
33316W	1 x 1	----
33460W	1 x 1-1/4	----
33050W	1-1/8" x 1"	----
33461W	1-1/4 x 1-1/4	----
33462W	1-1/2 x 1-1/4	----
33463W	1-1/2 x 1-1/2	----
33464W	2 x 2	----

**P** = Polypropylene

**W** = White Nylon

**B** = Black Polyethylene



# PLASTIC BARBS

## PLASTIC FITTINGS

### HOSE BARB X FE ADAPTERS



**B**

#### POLYETHYLENE ADAPTER

Hose ID x FIP

Part #	Size	
33053B	1/4 x 1/4"	----



**W**

#### NYLON ADAPTER Barb x FIP

Part #	Size	
33052W	1/4 x 1/8"	----
33053W	1/4 x 1/4"	----
33058W	3/8 x 1/4"	----
33059W	3/8 x 3/8"	----
33060W	3/8 x 1/2"	----
33442W	3/8 x 3/4"	----
33066W	1/2 x 1/4"	----
33062P	1/2 x 3/8"	----
33061W	1/2 x 1/2"	----
33067W	1/2 x 3/4"	----
33068W	5/8 x 1/2"	----
33063W	5/8 x 3/4"	----
33064W	3/4 x 1/2"	----

### HOSE BARB X FE ELBOW



**P**

**W**

#### NYLON ELBOW Hose ID x Female Pipe

Part #	Size	
33342W	3/8 x 1/2"	----
33402W	1/2 x 3/8"	----
33403W	1/2 x 3/4"	----
33343P	1/2 x 1/2"	----
33343W	1/2 x 1/2"	----
33344P	5/8 x 3/4"	----
33344W	5/8 x 3/4"	----
33470W	5/8 x 1/2"	----
33345W	3/4 x 1/2"	----
33471W	3/4 x 3/4"	----

### UNION ELBOWS



**B**

#### POLYETHYLENE ELBOW

Part #	Size	
33390B	1/4	----
33391B	3/8	----
33394B	1/2	----
33395B	5/8	----
33396B	3/4	----



**W**

#### NYLON ELBOW

Part #	Size	
33390W	1/4	----
33391W	3/8	----
33394W	1/2	----
33395W	5/8	----
33396W	3/4	----
33397W	1	----
33398W	1-1/4	----
33399W	1-1/2	----

### SPLICERS



**B**

#### POLYETHYLENE SPLICER

Part #	Size	
33091B	1/8	----
33092B	3/16	----
33093B	1/4	----
33095B	3/8	----
33096B	1/2	----
33097B	5/8	----



#### POLYPROPYLENE SPLICER

Part #	Size	
33095P	3/8	----
33096P	1/2	----
33098P	3/4	----
33099P	1	----

### SPLICERS



**W**

#### NYLON SPLICES

Part #	Size	
33091W	1/8	----
33092W	3/16	----
33093W	1/4	----
33094W	5/16	----
33095W	3/8	----
33096W	1/2	----
33097W	5/8	----
33098W	3/4	----
33099W	1	----
33480W	1-1/4	----
33481W	1-1/2	----

### REDUCING SPLICERS



**B**

#### POLYETHYLENE SPLICES

Part #	Size	
33406B	3/8 x 1/4	----
33407B	1/2 x 1/4	----
33408B	1/2 x 3/8	----
33410B	5/8 x 1/2	----



**W**

#### NYLON SPLICES

Part #	Size	
33079W	1/4 x 1/8	----
33347W	1/4 x 3/16	----
33406W	3/8 x 1/4	----
33348W	3/8 x 5/16	----
33407W	1/2 x 1/4	----
33408W	1/2 x 3/8	----
33409W	5/8 x 3/8	----
33410W	5/8 x 1/2	----
33089W	3/4 x 1/2	----

# PLASTIC BARBS

## PLASTIC FITTINGS

### TEES BARBED ON ALL SIDES

**B**



**POLYETHYLENE TEE**

Part #	Size	
33415B	1/8	----
33418B*	3/16	----
33420B	3/16	----
33422B	1/4	----
33426B	5/16	----
33429B	3/8	----
33433B	1/2	----
33436B	5/8	----
33437B	3/4	----
33438B	1	----

**P**



**POLYPROPYLENE TEE**

Part #	Size	
33429P	3/8	----
33440P	1-1/2	----

### ALL HOSE BARB "Y"

**P**



**POLYPROPYLENE WYE**

Part #	Size	
33300P*	1/4"	----
33301P*	3/8"	----
33302P*	1/2"	----

\*Natural Polypro

**W**



**NYLON WYE**

Part #	Size	
33301W	3/8"	----

**W**



**NYLON TEE**

Part #	Size	
33415W	1/8	----
33417W	5/32	----
33420W	3/16	----
33422W	1/4	----
33426W	5/16	----
33429W	3/8	----
33433W	1/2	----
33436W	5/8	----
33437W	3/4	----
33438W	1	----
33439W	1-1/4	----
33440W	1-1/2	----

### REDUCING TEES

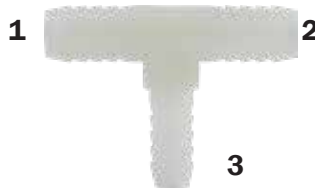
**B**



**POLYETHYLENE TEE**

Part #	Size	
33423B	3/8 x 3/8 x 1/4	----
33430B	1/2 x 1/2 x 3/8	----
33432B	3/8 x 3/8 x 1/2	----
33434B	1/2 x 1/2 x 5/8	----
33435B	3/4 x 3/4 x 1/2	----

**W**



**NYLON TEE**

Part #	Size	
33430W	1/2 x 1/2 x 3/8	----
33431W	5/8 x 5/8 x 3/8	----
33432W	3/8 x 3/8 x 1/2	----
33435W	3/4 x 3/4 x 1/2	----

### MALE BRANCH TEE

**W**



**NYLON BRANCH TEE**

Part #	Size	
33448W	1/4 x 1/4	----
33450W	3/8 x 1/4	----
33451W	3/8 x 3/8	----
33453W	1/2 x 1/4	----
33454W	1/2 x 3/8	----
33455W	1/2 x 1/2	----
33458W	5/8" x 3/4"	----
33456W	3/4 x 3/4	----

Tomorrow is the most important thing in life. Comes into us at midnight very clean. It's perfect when it arrives and it puts itself in our hands. It hopes we've learned something from yesterday.

- John Wayne

# PLASTIC GARDEN HOSE

## PLASTIC FITTINGS

# GARDEN HOSE

### PLASTIC GARDEN HOSE FITTINGS

FITTINGS WITH GARDEN HOSE THREAD

#### GARDEN HOSE CAP

- Washer not included



- White Nylon

P

Part #	Size	
30103P	3/4"	----

### GARDEN HOSE THREAD ADAPTERS

BARB X MALE GARDEN HOSE



- White Nylon

Part #	Size	
31038	1/4"	----
31039	3/8"	----
31040	1/2"	----
31041	5/8"	----
31042	3/4"	----

### GARDEN HOSE ADAPTER INSERTS

- for assembly with 31-022



- White Nylon

Part #	Size	
31030	1/4"	----
31031	3/8"	----
31032	1/2"	----
31033	5/8"	----
31034	3/4"	----
31035	1/2" MPT	----

### GARDEN HOSE NUT



- White Nylon

Part #	Size	
31022	3/4"	----
31023	3/4" FIP	----

### MALE GARDEN HOSE X FEMALE PIPE



- White Nylon

Part #	Size	
31067	MGH X 1/4	----
31068	MGH X 1/2 FIP	----
31069	MGH X 3/4	----

### FEMALE GARDEN HOSE X MALE PIPE



- White Nylon

Part #	Size	
31093	FGH X 3/4 MPT	----
31095	FGH X 3/4 MGH	----

### FEMALE GARDEN HOSE X FEMALE PIPE



- White Nylon

Part #	Size	
31096	FGH X 1/2 FIP	----
31097	FGH X 3/4 FIP	----

### MALE GARDEN HOSE X MALE PIPE



- White Nylon

Part #	Size	
31055	GHT X 3/8 MPT	----
31058	GHT X 1/2 MPT	----
31063	GHT X 3/4 MPT	----
31064	GHT X 1 MPT	----

# PLASTIC COMPRESSION

## PLASTIC FITTINGS

### PLASTIC COMPRESSION FITTINGS

Corrosion resistant thermoplastics designed to resist vibration, provide good electrical insulation, low flow resistance, and resistance to scale buildup.

The letter on the end of part no. denotes the type.

N = Nylon  
P = Polypropylene

Standard nut and sleeves will be provided (sleeve is integral part of nut). Other sizes available upon request.

FDA and NSF Listed

### UNION & REDUCING UNION CONNECTORS



Part #	Size	
17064P	1/4"	----
17066P	3/8"	----
17079P	3/8" x 1/4"	----
17068P	1/2"	----



• Nylon

Part #	Size	
17064N	1/4"	----
17065N	5/16"	----
17078N	5/16" x 1/4"	----
17066N	3/8"	----
17079N	3/8" x 1/4"	----
17068N	1/2"	----

### BULKHEAD UNIONS



• Nylon

Part #	Size	
17088N	1/4"	----
17090N	3/8"	----
17091N	1/2"	----

### UNION TEES



• Nylon

Part #	Size	
17103N	1/4"	----
17105N	3/8"	----
17106N	1/2"	----

### UNION ELBOWS



• Nylon

Part #	Size	
17124P	1/4"	----
17126P	3/8"	----
17127P	1/2"	----



• Nylon

PART #	SIZE	
17124N	1/4"	----
17126N	3/8"	----

### FEMALE CONNECTORS



• Nylon

Part #	Size	
17145P	1/4 x 1/8	----
17153P	3/8 x 1/4	----
17154P	3/8 x 3/8	----
17158P	1/2 x 3/8	----



• Nylon

Part #	Size	
17146N	1/4 x 1/4	----
17153N	3/8 x 1/4	----

### MALE CONNECTORS



• Nylon

Part #	Size	
17179P	1/4 x 1/8	----
17180P	1/4 x 1/4	----
17188P	3/8 x 1/4	----
17189P	3/8 x 3/8	----
17190P	3/8 x 1/2	----
17193P	1/2 x 1/4	----
17194P	1/2 x 3/8	----



• Nylon

Part #	Size	
17176N	1/8 x 1/8"	
17179N	1/4 x 1/8	----
17180N	1/4 x 1/4	----
17188N	3/8 x 1/4	----
17189N	3/8 x 3/8	----
17190N	3/8 x 1/2	----
17193N	1/2 x 1/4	----
17194N	1/2 x 3/8	----

### MALE ELBOWS



• Nylon

Part #	Size	
17225P	1/4 x 1/4	----
17233P	3/8 x 1/4	----
17234P	3/8 x 3/8	----
17237P	1/2 x 3/8	----
17238P	1/2 x 1/2	----



• Nylon

Part #	Size	
17224N	1/4 x 1/8	----
17225N	1/4 x 1/4	----
17233N	3/8 x 1/4	----
17234N	3/8 x 3/8	----
17237N	1/2 x 3/8	----
17238N	1/2 x 1/2	----

# PLASTIC PUSH-IN TUBE FITTINGS

Manufactured from safe, non-toxic materials meeting the requirements of the US FDA, WRAS, ANSI/NSF-51, 61, and SK Zert. Our products are widely used in water purification, food/beverage and pneumatic systems.

- **Function & Quality :** provides quick and convenient assembly - saving time & expense. Our ISO9001, 14001 registered quality system ensures our customers a superior level of product quality. Defects are easily detectable and maintenance is easy with its easy dismantling for access.
- **Collet Design :** Unique oval collet design is superior and more practical.
- **Applications :** Beyond water and food use, fittings can be used with air, gases, vacuum, & liquids. And all connections can be assembled & disassembled repeatedly.
- **Material :** Grey Acetal Copolymer, also known as POM. Highly durable and resistant to fatigue and creep. It has high resistance to a wide range of organic & inorganic chemicals and detergents. Not recommended for use with strong acids or repeated exposure to strong oxidizers. (polypropylene may be subbed)

Temperature	SIZE	Small Size						Large Size				
		5/32"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	28mm		
		4mm	5mm	6mm	8mm	10mm	12mm	15mm	16mm	18mm	22mm	
1°C (34°F)		16bar (230PSI)						11bar (170PSI)		11bar (170PSI)		
20°C (68°F)		16bar (230PSI)						11bar (170PSI)		11bar (170PSI)		
65°C (150°F)		10bar (150PSI)						7bar (100PSI)		7bar (100PSI)		

- Fittings are not recommended for use with liquids other than water and food or beverage products.
- Do not use pipe dope or other liquid thread sealers. Use only Teflon tape to seal threaded connections.
- After assembling a tube connection, tug with moderate force to check for proper gripping of the tube.
- Before disassembling tube connections, always verify that pressure has been removed from the system.

## UNION CONNECTOR



Part #	Tube OD	
20018P	5/32"	----
20702P	3/16"	----
20019P	1/4"	----
20020P	3/8"	----
20021P	1/2"	----

## REDUCING UNION



Part #	Tube OD	Tube OD	
20750P	1/4"	3/16"	----
20754P	3/8"	3/16"	----
20755P	3/8"	1/4"	----
20756P	3/8"	5/16"	----
20758P	1/2"	3/8"	----

## BULKHEAD UNION



Part #	Tube OD	
20127P	1/4"	----
20128P	3/8"	----

## UNION TEE



Part #	Tube OD	
20028P	1/4"	----
20029P	3/8"	----
20030P	1/2"	----

## REDUCING BRANCH TEE



Part #	Tube OD 1	Tube OD 2	
20725P	3/8"	1/4"	----
20724P	1/2"	3/8"	----

## UNION ELBOW



Part #	Tube OD	
20152P	1/4"	----
20153P	3/8"	----
20154P	1/2"	----

## REDUCING ELBOW



Part #	Tube OD	Tube OD	
20733P	3/8"	3/16"	----
20734P	3/8"	1/4"	----
20736P	1/2"	3/8"	----

# PLASTIC PUSH-IN

## PLASTIC FITTINGS

### FEMALE CONNECTOR



Female Pipe

PART #	TUBE OD	THREAD NPTF	
20993P	1/4"	1/8"	----
20035P	1/4"	1/4"	----
20944P	3/8"	1/8"	----
20036P	3/8"	1/4"	----



Female Flare

PART #	TUBE OD	FE FLARE	
20936P	1/4"	1/4"	----
20937P	3/8"	1/4"	----
20938P	3/8"	3/8"	----



Female UNS Cone Type

PART #	TUBE OD	UNS	
20939P	1/4"	7/16"	----
20940P	3/8"	7/16"	----



Female Comp

PART #	TUBE OD	FE COMP	
20941P	3/8"	9/16-24"	----



20-152P + 20-525P = 20-964P

### MALE CONNECTOR



Male Pipe

PART #	TUBE OD	THREAD NPTF	
20050P	5/32"	1/8"	----
20054P	1/4"	1/8"	----
20055P	1/4"	1/4"	----
20056P	1/4"	3/8"	----
20057P	3/8"	1/8"	----
20058P	3/8"	1/4"	----
20059P	3/8"	3/8"	----
20062P	3/8"	1/2"	----
20061P	1/2"	3/8"	----
20063P	1/2"	1/2"	----



Male BSP

AMCB

PART #	TUBE OD	BSP	
20958P	3/8"	3/8"	----



AMCF

PART #	TUBE OD	MALE FLARE	
20960P	3/8"	1/4"	----
20961P	3/8"	1/2"	----

### STEM ADAPTER



Part #	stem OD	Thread NPTF	
20524P	1/4"	1/8"	----
20525P	1/4"	1/4"	----
20528P	3/8"	1/4"	----
20529P	3/8"	3/8"	----

### REDUCER



PART #	TUBE OD 1	STEM OD 2	
20512P	3/8"	1/4"	----
20763P	3/8"	5/16"	----
20514P	1/2"	3/8"	----

### TUBE BARB CONNECTOR



ATBC

PART #	STEM OD	HOSE BARB ID	
20964P	1/4"	1/4"	----
20965P	3/8"	1/4"	----
20966P	3/8"	3/8"	----
20967P	3/8"	1/2"	----
20968P	1/2"	3/8"	----
20969P	1/2"	1/2"	----

### FIXED ELBOW



Part #	Tube OD	Thread NPTF	
20068P	1/4"	1/8"	----
20069P	1/4"	1/4"	----
20070P	1/4"	3/8"	----
20072P	3/8"	1/4"	----
20073P	3/8"	3/8"	----

### SWIVEL ELBOW

Union Elbow + Stem Adapter



AMES

PART #	STEM OD	TUBE ID	
20973P	1/4"	1/4"	----
20974P	3/8"	3/8"	----



# PLASTIC PUSH-IN

## PLASTIC FITTINGS

### PLUG-IN ELBOW



PART #	TUBE OD	STEM	
20740P	5/32"	5/32"	----
20742P	1/4"	1/4"	----
20745P	3/8"	1/4"	----
20747P	3/8"	3/8"	----
20748P	1/2"	1/2"	----

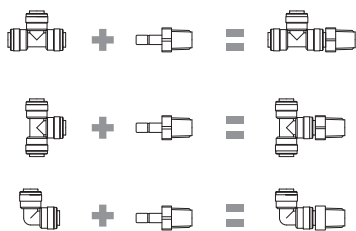
### TUBE ELBOW BARB CONNECTOR



PART #	STEM OD	HB ID	
20970P	1/4"	1/4"	----
20971P	3/8"	1/4"	----
20972P	3/8"	3/8"	----

### ADAPTABILITY

- For maximum flexibility, fittings may be combined to provide wider functions.
- Unlike some competitors products, separation and reuse is easy.



### 2-WAY DIVIDER



PART #	TUBE OD	LIST PRICE
20775P	1/4"	----
20776P	5/16"	----
20777P	3/8"	----

### PLUG



PART #	TUBE OD	
20876P	5/32"	----
20878P	1/4"	----
20880P	3/8"	----
20881P	1/2"	----

### TUBE END STOP



PART #	TUBE OD	
20925P	1/4"	----
20927P	3/8"	----



AFAN

Female Garden Hose

Tube

PART #	TUBE OD	FGH	
20950P	1/4"	3/4"	----
20951P	3/8"	3/4"	----



AFAB

Female BSP

Tube

PART #	TUBE OD	BSP	
20953P	1/4"	1/2"	----
20954P	1/4"	3/4"	----
20955P	3/8"	3/4"	----
20956P	5/8"	3/4"	----

### PL X PL



PART #	TUBE OD	
20900P	1/4"	----
20901P	3/8"	----

### PL X MALE NPTF



PART #	TUBE OD	MALE THREAD NPTF	
20904P	1/4"	1/4"	----
20905P	3/8"	3/8"	----

# PLASTIC PUSH-IN

## PLASTIC FITTINGS

### CHECK VALVE



PART #	TUBE OD	
20778P	1/4"	----
20779P	3/8"	----

### STOP VALVES

**CONNECTOR:** Flows in both directions by connection.

**DISCONNECTOR:** Stop flows in both directions by with separation where pulling to the open position.



ASTVBU

PART #	TUBE OD	
20910P	1/4"	----

### LOCKING CLIP



ALC

PART #	TUBE OD	
20975P	1/4"	----
20976P	3/8"	----
20977P	1/2"	----

### FLOW BEND CLIP



AFBC

PART #	TUBE OD	
20980P	1/4"	----
20981P	3/8"	----

### SPANNER



PART #	SIZES	
20983P	3/16,1/4,5/16 3/8,1/2	----

### STOP & FAUCET ADAPTER VALVES

AV range of Stop & Faucet Valve Adaptor valves and Slip Tee Valves are manufactured in white Polypropylene, reinforced plastic with EPDM O-rings which provides value-added advantages in the installation of water supply line mainly.

AV range of Stop & Faucet Valve Adaptors and Slip Tee Valves are designed for use in drinking water systems, Refrigerators, Ice-Makers, Humidifiers and Water filtration applications, etc.,. Our valves offer greater efficiency than any traditional valves.

AV valves have been approved in NSF/ANSI 61 & 372.

AV range is 1/4" Turn valves.

### STOP VALVE ADAPTER



3/8 MALE COMP X  
3/8 FEMALE COMP

PART #	TUBE OD	
20985P	1/4"	----
20986P	3/8"	----

### SLIPTEE VALVE



PART #	RUN X RUN	BRANCH	
20988P	5/8"	1/4"	----
20989P	5/8"	3/8"	----
20990P	7/8"	1/4"	----

A man has to learn that he cannot command things, but that he can command himself; that he cannot coerce the wills of others, but that he can mold and master his own will: and things serve him who serves Truth; people seek guidance of him who is master of himself.

- James Allen

# HOSE ACCESSORIES



## CAM AND GROOVE



ALUMINIUM



POLYPROPYLENE



STAINLESS STEEL



BRASS

## COMBINATION HOSE NIPPLES



## FIRE HOSE FITTINGS



## UNIVERSAL/ GROUND JOINT COUPLINGS



**ALUMINUM CAM AND GROOVE**

HOSE ACCESSORIES

**CAM AND GROOVE****MALE ADAPTER X FEMALE NPT  
TYPE A**CGA  
6191X

PART#	SIZE	
CGA-050-A1	1/2"	----
CGA-075-A1	3/4"	----
CGA-100-A1	1"	----
CGA-125-A1	1-1/4"	----
CGA-150-A1	1-1/2"	----
*CGA-200-A1	2"	----
CGA-250-A1	2-1/2"	----
*CGA-300-A1	3"	----
*CGA-400-A1	4"	----
CGA-500-A1	5"	----
CGA-600-A1	6"	----
CGA-800-A1	8"	----
CGA-1000-A	10"	----

**FEMALE COUPLER X HOSE SHANK  
TYPE C**CGC  
6193X

PART#	SIZE	
CGC-050-A1	1/2"	----
CGC-075-A1	3/4"	----
CGC-100-A1	1"	----
CGC-125-A1	1-1/4"	----
CGC-150-A1	1-1/2"	----
*CGC-200-A1	2"	----
CGC-250-A1	2-1/2"	----
*CGC-300-A1	3"	----
*CGC-400-A1	4"	----
CGC-500-A1	5"	----
CGC-600-A1	6"	----
CGC-800-A1	8"	----
CGC-1000-A	10"	----

**FEMALE COUPLER X MALE NPT  
TYPE B**CGB  
6192X

PART#	SIZE	
CGB-050-A1	1/2"	----
CGB-075-A1	3/4"	----
CGB-100-A1	1"	----
CGB-125-A1	1-1/4"	----
CGB-150-A1	1-1/2"	----
CGB-200-A1	2"	----
CGB-250-A1	2-1/2"	----
CGB-300-A1	3"	----
*CGB-400-A1	4"	----
CGB-500-A1	5"	----
CGB-600-A1	6"	----
CGB-800-A1	8"	----
CGB-1000-A	10"	----

**FEMALE COUPLER X FEMALE NPT  
TYPE D**CGD  
6194X

PART#	SIZE	
CGD-050-A1	1/2"	----
CGD-075-A1	3/4"	----
CGD-100-A1	1"	----
CGD-125-A1	1-1/4"	----
CGD-150-A1	1-1/2"	----
*CGD-200-A1	2"	----
CGD-250-A1	2-1/2"	----
*CGD-300-A1	3"	----
*CGD-400-A1	4"	----
CGD-500-A1	5"	----
CGD-600-A1	6"	----
CGD-800-A1	8"	----
CGD-1000-A	10"	----

# ALUMINUM CAM AND GROOVE

## HOSE ACCESSORIES

### MALE ADAPTER X HOSE SHANK

#### TYPE E



CGE  
61-95X

PART#	SIZE	
CGE-050-A1	1/2"	----
CGE-075-A1	3/4"	----
CGE-100-A1	1"	----
CGE-125-A1	1-1/4"	----
CGE-150-A1	1-1/2"	----
*CGE-200-A1	2"	----
CGE-250-A1	2-1/2"	----
*CGE-300-A1	3"	----
*CGE-400-A1	4"	----
CGE-500-A1	5"	----
CGE-600-A1	6"	----
CGE-800-A1	8"	----
CGE-1000-A	10"	----

### DUST CAP

#### TYPE DC



CDC  
61-97X

PART#	SIZE	
CDC-050-A1	1/2"	----
CDC-075-A1	3/4"	----
CDC-100-A1	1"	----
CDC-125-A1	1-1/4"	----
CDC-150-A1	1-1/2"	----
*CDC-200-A1	2"	----
CDC-250-A1	2-1/2"	----
*CDC-300-A1	3"	----
*CDC-400-A1	4"	----
CDC-500-A1	5"	----
CDC-600-A1	6"	----
CDC-800-A1	8"	----
CDC-1000-A	10"	----

### MALE ADAPTER X MALE NPT

#### TYPE F



CGF  
61-96X

PART#	SIZE	
CGF-050-A1	1/2"	----
CGF-075-A1	3/4"	----
CGF-100-A1	1"	----
CGF-125-A1	1-1/4"	----
CGF-150-A1	1-1/2"	----
*CGF-200-A1	2"	----
CGF-250-A1	2-1/2"	----
CGF-300-A1	3"	----
*CGF-400-A1	4"	----
CGF-500-A1	5"	----
CGF-600-A1	6"	----
CGF-800-A1	8"	----
CGF-1000-A	10"	----

### DUST PLUG

#### TYPE DP



CDP  
61-98X

PART#	SIZE	
CDP-050-A1	1/2"	----
CDP-075-A1	3/4"	----
CDP-100-A1	1"	----
CDP-125-A1	1-1/4"	----
CDP-150-A1	1-1/2"	----
CDP-200-A1	2"	----
CDP-250-A1	2-1/2"	----
CDP-300-A1	3"	----
CDP-400-A1	4"	----
CDP-500-A1	5"	----
CDP-600-A1	6"	----
CDP-800-A1	8"	----
CDP-1000-A	10"	----

**ALUMINUM CAM AND GROOVE**

HOSE ACCESSORIES

**ALUMINUM (AL) SPOOL & PART A**

SEE PAGES 332 FOR JUMP SIZES IN ALUMINUM

**MALE ADAPTER X MALE ADAPTER  
ALUMINUM  
SPOOL ADAPTER**SA-XXX-A  
61910

PART#	SIZE	PART#	
SA-100-A	1"	61872	----
SA-150-A	1-1/2"	*61873	----
SA-200-A	2"	*61874	----
SA-2030-A	2" x 3"	*61875	----
SA-250-A	2-1/2"	61876	----
SA-300-A	3"	*61877	----
SA-3040-A	3" x 4"	*61878	----
SA-400-A	4"	*61879	----

**REDUCER ADAPTER FEMALE  
NPT ALUMINUM**

CGA-XXX-A

**MALE ADAPTER X FEMALE PIPE**

PART#	SIZE	PART#	
CGA-1520-A	1-1/2" x 2"		----
CGA-2015-A	2" x 1-1/2"		----
CGA-2030-A	2" x 3"	*61-851	----
CGA-3040-A	3" x 4"	*61-853	----
CGA-4030-A	4" x 3"	*61-854	----
*CGA-6040-A	6" x 4"		----

**ALUMINUM SWIVEL**

PART#	SIZE	
CGASV-300-A	3"	----
CGASV-400-A	4"	----

**REDUCER COUPLER M NPT  
PART B**

CGB-XXX-A

**FEMALE COUPLER X MALE PIPE**

PART#	SIZE	PART#	
CGA-3020-A	3" x 2"	61859	----
CGA-3040-A	3" x 4"	*61860	----
CGA-4030-A	4" x 3"	*61861	----

**ALUMINUM 90°  
PART C**

PART#	SIZE	
CGC-1590-A	1-1/2"	----
CGC-2090-A	2"	----

**REDUCER COUPLER SHANK  
PART C**

CGC

PART#	SIZE	
CGC-2015-A	2" x 1-1/2"	----
CGC-3020-A	3" x 2"	----
CGC-3025-A	3" x 2-1/2"	----
CGC-4030-A	4" x 3"	----



# ALUMINUM CAM AND GROOVE

## HOSE ACCESSORIES

### REDUCER COUPLER ADAPTER PART D

DA-XXX-A



#### FEMALE COUPLER X MALE ADAPTER

PART#	SIZE	PART#	
DA-1510-A	1-1/2" x 1"	619001	----
DA-1520-A	1-1/2" x 2"	*619002	----
DA-2015-A	2" x 1-1/2"	*619003	----
DA-2030-A	2" x 3"	*619004	----
DA-2040-A	2" x 4"	619005	----
DA-3015-A	3" x 1-1/2"	619006	----
DA-3020-A	3" x 2"	*619007	----
DA-3040-A	3" x 4"	*619008	----
DA-4020-A	4" x 2"	*619009	----
DA-4030-A	4" x 3"	*619010	----
DA-4060-A	4" x 6"	*619011	----
DA-6040-A	6" x 4"	*619012	----

### REDUCER COUPLER FEMALE NPT PART D

CGD



#### FEMALE COUPLER X FEMALE PIPE

PART#	SIZE	PART#	
CGD-1510-A	1-1/2" x 1"	61865	----
CGD-2015-A	2" x 1-1/2"	61866	----
CGD-3020-A	3" x 2"	61867	----
CGD-4030-A	4" x 3"	61868	----

### SPOOL COUPLER PART D

DD



#### FEMALE COUPLER X FEMALE COUPLER

PART#	SIZE	PART#	
*DD-1515-A	1-1/2" x 1-1/2"	*619440	----
*DD-2020-A	2" x 2"	*619450	----
*DD-2030-A	2" x 3"		----
*DD-3030-A	3" x 3"	*619470	----
*DD-3040-A	3" x 4"		----
*DD-4040-A	4" x 4"	*619480	----

### SWIVEL PART D



#### FEMALE COUPLER X FEMALE PIPE

CGDSV

PART#	SIZE	
*CGDSV-300-A	3"	----
*CGDSV-400-A	4"	----

### REDUCER ADAPTER MALE NPT PART F



CGF

#### MALE ADAPTER X MIP

Part#	Size		
CGF-1520-A	1-1/2" x 2"		----
*CGF-2030-A	2" x 3"		----
*CGF-3020-A	3" x 2"	61870	----
*CGF-3040-A	3" x 4"	61871	----
CGF-4030-A	4" x 3"		----
CGF-4060-A	4" x 6"		----

**POLY CAM AND GROOVE**

HOSE ACCESSORIES

**POLYPROPYLENE (PP)****MALE ADAPTER X FEMALE NPT  
TYPE A**

35-91X

PART#	SIZE	
CGA-050-PP	1/2"	----
CGA-075-PP	3/4"	----
CGA-100-PP	1"	----
CGA-125-PP	1-1/4"	----
CGA-150-PP	1-1/2"	----
*CGA-200-PP	2"	----
CGA-300-PP	3"	----
CGA-400-PP	4"	----

**FEMALE COUPLER X HOSE SHANK  
TYPE C**CGC  
35-93X

PART#	SIZE	
CGC-050-PP	1/2"	----
CGC-075-PP	3/4"	----
CGC-100-PP	1"	----
CGC-125-PP	1-1/4"	----
CGC-150-PP	1-1/2"	----
*CGC-200-PP	2"	----
*CGC-300-PP	3"	----
CGC-400-PP	4"	----

**FEMALE COUPLER X MALE NPT  
TYPE B**CGB  
35-92X

PART#	SIZE	
CGB-050-PP	1/2"	----
CGB-075-PP	3/4"	----
CGB-100-PP	1"	----
CGB-125-PP	1-1/4"	----
CGB-150-PP	1-1/2"	----
*CGB-200-PP	2"	----
*CGB-300-PP	3"	----
CGB-400-PP	4"	----

**FEMALE COUPLER X FEMALE NPT  
TYPE D**

35-94X

PART#	SIZE	
CGD-050-PP	1/2"	----
CGD-075-PP	3/4"	----
CGD-100-PP	1"	----
CGD-125-PP	1-1/4"	----
CGD-150-PP	1-1/2"	----
*CGD-200-PP	2"	----
CGD-300-PP	3"	----
CGD-400-PP	4"	----

# POLYPROPYLENE CAM AND GROOVE

## HOSE ACCESSORIES

### MALE ADAPTER X HOSE SHANK TYPE E



35-95X

PART#	SIZE	
CGE-050-PP	1/2"	----
CGE-075-PP	3/4"	----
CGE-100-PP	1"	----
CGE-125-PP	1-1/4"	----
CGE-150-PP	1-1/2"	----
*CGE-200-PP	2"	----
*CGE-300-PP	3"	----
CGE-400-PP	4"	----

### MALE ADAPTER X MALE NPT TYPE F



35-96X

PART#	SIZE	
CGF-050-PP	1/2"	----
CGF-075-PP	3/4"	----
CGF-100-PP	1"	----
CGF-125-PP	1-1/4"	----
CGF-150-PP	1-1/2"	----
*CGF-200-PP	2"	----
*CGF-300-PP	3"	----
CGF-400-PP	4"	----

### DUST CAP TYPE DC



CDC  
35-97X

PART#	SIZE	
CDC-050-PP	1/2"	----
CDC-075-PP	3/4"	----
CDC-100-PP	1"	----
CDC-125-PP	1-1/4"	----
CDC-150-PP	1-1/2"	----
*CDC-200-PP	2"	----
*CDC-300-PP	3"	----
CDC-400-PP	4"	----

### DUST PLUG TYPE DP



CDP  
35-98X

PART#	SIZE	
CDP-050-PP	1/2"	----
CDP-075-PP	3/4"	----
CDP-100-PP	1"	----
CDP-125-PP	1-1/4"	----
CDP-150-PP	1-1/2"	----
CDP-200-PP	2"	----
CDP-300-PP	3"	----
CDP-400-PP	4"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**STAINLESS STEEL CAM AND GROOVE #316**

HOSE ACCESSORIES

**MALE ADAPTER X FEMALE NPT  
TYPE A**CGA  
6391X

PART#	SIZE	
CGA-050-SS1	1/2"	----
*CGA-075-SS1	3/4"	----
*CGA-100-SS1	1"	----
*CGA-125-SS1	1-1/4"	----
*CGA-150-SS1	1-1/2"	----
*CGA-200-SS1	2"	----
*CGA-250-SS1	2-1/2"	----
*CGA-300-SS1	3"	----
*CGA-400-SS1	4"	----
*CGA-500-SS1	5"	----
CGA-600-SS1	6"	----
CGA-800-SS1	8"	----

**FEMALE COUPLER X HOSE SHANK  
TYPE C**CGC  
6393X

PART#	SIZE	
CGC-050-SS1	1/2"	----
*CGC-075-SS1	3/4"	----
*CGC-100-SS1	1"	----
*CGC-125-SS1	1-1/4"	----
*CGC-150-SS1	1-1/2"	----
*CGC-200-SS1	2"	----
CGC-250-SS1	2-1/2"	----
*CGC-300-SS1	3"	----
*CGC-400-SS1	4"	----
CGC-500-SS1	5"	----
*CGC-600-SS1	6"	----
CGC-800-SS1	8"	----

**FEMALE COUPLER X MALE NPT  
TYPE B**CGB  
6392X

PART#	SIZE	
CGB-050-SS1	1/2"	----
*CGB-075-SS1	3/4"	----
*CGB-100-SS1	1"	----
CGB-125-SS1	1-1/4"	----
*CGB-150-SS1	1-1/2"	----
*CGB-200-SS1	2"	----
CGB-250-SS1	2-1/2"	----
*CGB-300-SS1	3"	----
*CGB-400-SS1	4"	----
CGB-500-SS1	5"	----
CGB-600-SS1	6"	----
CGB-800-SS1	8"	----

**FEMALE COUPLER X FEMALE NPT  
TYPE D**CGD  
6394X

PART#	SIZE	
*CGD-050-SS1	1/2"	----
*CGD-075-SS1	3/4"	----
*CGD-100-SS1	1"	----
*CGD-125-SS1	1-1/4"	----
*CGD-150-SS1	1-1/2"	----
*CGD-200-SS1	2"	----
*CGD-250-SS1	2-1/2"	----
*CGD-300-SS1	3"	----
*CGD-400-SS1	4"	----
*CGD-500-SS1	5"	----
CGD-600-SS1	6"	----

8" AVAILABLE ONLINE

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STAINLESS STEEL CAM AND GROOVE #316

## HOSE ACCESSORIES

### MALE ADAPTER X HOSE SHANK TYPE E



SA  
6395X

PART#	SIZE	
CGE-050-SS1	1/2"	----
*CGE-075-SS1	3/4"	----
*CGE-100-SS1	1"	----
*CGE-125-SS1	1-1/4"	----
*CGE-150-SS1	1-1/2"	----
*CGE-200-SS1	2"	----
*CGE-250-SS1	2-1/2"	----
*CGE-300-SS1	3"	----
*CGE-400-SS1	4"	----
*CGE-500-SS1	5"	----
*CGE-600-SS1	6"	----
CGE-800-SS1	8"	----

### DUST CAP TYPE DC



6397X

PART#	SIZE	
CDC-050-SS1	1/2"	----
*CDC-075-SS1	3/4"	----
*CDC-100-SS1	1"	----
CDC-125-SS1	1-1/4"	----
*CDC-150-SS1	1-1/2"	----
*CDC-200-SS1	2"	----
CDC-250-SS1	2-1/2"	----
*CDC-300-SS1	3"	----
*CDC-400-SS1	4"	----
CDC-500-SS1	5"	----
CDC-600-SS1	6"	----
CDC-800-SS1	8"	----

### MALE ADAPTER X MALE NPT TYPE F



CGF  
6396X

PART#	SIZE	
CGF-050-SS1	1/2"	----
*CGF-075-SS1	3/4"	----
*CGF-100-SS1	1"	----
CGF-125-SS1	1-1/4"	----
*CGF-150-SS1	1-1/2"	----
*CGF-200-SS1	2"	----
CGF-250-SS1	2-1/2"	----
*CGF-300-SS1	3"	----
*CGF-400-SS1	4"	----
CGF-500-SS1	5"	----
*CGF-600-SS1	6"	----
CGF-800-SS1	8"	----

### DUST PLUG TYPE DP



6398X

PART#	SIZE	
*CDP-050-SS1	1/2"	----
*CDP-075-SS1	3/4"	----
*CDP-100-SS1	1"	----
CDP-125-SS1	1-1/4"	----
*CDP-150-SS1	1-1/2"	----
*CDP-200-SS1	2"	----
CDP-250-SS1	2-1/2"	----
*CDP-300-SS1	3"	----
*CDP-400-SS1	4"	----
CDP-600-SS1	6"	----
CDP-800-SS1	8"	----

**STAINLESS STEEL CAM AND GROOVE #316**

## HOSE ACCESSORIES

**PART A SPOOL ADAPTER  
STAINLESS**

PART#	SIZE	PART#	
SA-100-SS	1"	63850	----
SA-150-SS	1-1/2"	63851	----
SA-1520-SS	1-1/2" x 2"	63852	----
SA-200-SS	2"	63853	----
SA-2030-SS	2" x 3"	63854	----
SA-300-SS	3"	63855	----
SA-3040-SS	3" x 4"	63856	----
SA-400-SS	4"	63857	----

**PART D SPOOL COUPLER  
STAINLESS 316**

PART#	SIZE	PART#	
*DD-1515-SS	1-1/2" x 1-1/2"	639440	----
*DD-2020-SS	2" x 2"	639450	----
*DD-2030-SS	2" x 3"		----
*DD-3030-SS	3" x 3"	639470	----
*DD-3040-SS	3" x 4"		----
*DD-4040-SS	4" x 4"	639480	----

**PART D REDUCER COUPLER  
ADAPTER STAINLESS 316**

PART#	SIZE	PART#	
*DA-2030-SS	2" x 3"		----
*DA-3020-SS	3" x 2"	639002	----
*DA-3040-SS	3" x 4"		----
*DA-4030-SS	4" x 3"	639003	----
*DA-6040-SS	6" x 4"	639004	----

**PART D STAINLESS  
90° ELBOW**

PART#	SIZE	
*CGD-2090-SS	2"	----

**THE ELEPHANT ROPE**

A gentleman was walking through an elephant camp, and he spotted that the elephants weren't being kept in cages or held by the use of chains.

All that was holding them back from escaping the camp, was a small piece of rope tied to one of their legs.

As the man gazed upon the elephants, he was completely confused as to why the elephants didn't just use their strength to break the rope and escape the camp. They could easily have done so, but instead, they didn't try to at all.

Curious and wanting to know the answer, he asked a trainer nearby why the elephants were just standing there and never tried to escape.

The trainer replied;  
"when they are very young and much smaller we use the same size rope to tie them and, at that age, it's enough to hold them. As they grow up, they are conditioned to believe they cannot break away. They believe the rope can still hold them, so they never try to break free."

The only reason that the elephants weren't breaking free and escaping from the camp was that over time they adopted the belief that it just wasn't possible.

Moral of the story:  
No matter how much the world tries to hold you back, always continue with the belief that what you want to achieve is possible. Believing you can become successful is the most important step in actually achieving it.

- UNKNOWN



# BRASS CAM AND GROOVE

## HOSE ACCESSORIES

### BRASS

MALE ADAPTER X FEMALE NPT  
TYPE A



4491X

PART#	SIZE	
CGA-050-B1	1/2"	----
*CGA-075-B1	3/4"	----
*CGA-100-B1	1"	----
CGA-125-B1	1-1/4"	----
CGA-150-B1	1-1/2"	----
*CGA-200-B1	2"	----
CGA-250-B1	2-1/2"	----
*CGA-300-B1	3"	----
*CGA-400-B1	4"	----
CGA-500-B1	5"	----
*CGA-600-B1	6"	----

FEMALE COUPLER X HOSE SHANK  
TYPE C



4493X

PART#	SIZE	
CGC-050-B1	1/2"	----
*CGC-075-B1	3/4"	----
*CGC-100-B1	1"	----
CGC-125-B1	1-1/4"	----
CGC-150-B1	1-1/2"	----
*CGC-200-B1	2"	----
CGC-250-B1	2-1/2"	----
*CGC-300-B1	3"	----
*CGC-400-B1	4"	----
CGC-500-B1	5"	----
*CGC-600-B1	6"	----

FEMALE COUPLER X MALE NPT  
TYPE B



4492X

PART#	SIZE	
CGB-050-B1	1/2"	----
*CGB-075-B1	3/4"	----
*CGB-100-B1	1"	----
CGB-125-B1	1-1/4"	----
*CGB-150-B1	1-1/2"	----
*CGB-200-B1	2"	----
CGB-250-B1	2-1/2"	----
*CGB-300-B1	3"	----
*CGB-400-B1	4"	----
CGB-500-B1	5"	----
CGB-600-B1	6"	----

FEMALE COUPLER X FEMALE NPT  
TYPE D



4494X

PART#	SIZE	
CGD-050-B1	1/2"	----
*CGD-075-B1	3/4"	----
*CGD-100-B1	1"	----
*CGD-125-B1	1-1/4"	----
CGD-150-B1	1-1/2"	----
*CGD-200-B1	2"	----
CGD-250-B1	2-1/2"	----
*CGD-300-B1	3"	----
*CGD-400-B1	4"	----
CGD-500-B1	5"	----
*CGD-600-B1	6"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**BRASS CAM AND GROOVE**

## HOSE ACCESSORIES

**MALE ADAPTER X HOSE SHANK  
TYPE E**

4495X

PART#	SIZE	
CGE-050-B1	1/2"	----
*CGE-075-B1	3/4"	----
*CGE-100-B1	1"	----
*CGE-125-B1	1-1/4"	----
*CGE-150-B1	1-1/2"	----
*CGE-200-B1	2"	----
CGE-250-B1	2-1/2"	----
*CGE-300-B1	3"	----
*CGE-400-B1	4"	----
CGE-500-B1	5"	----
*CGE-600-B1	6"	----

**MALE ADAPTER X MALE NPT  
TYPE F**

4496X

PART#	SIZE	
CGF-050-B1	1/2"	----
*CGF-075-B1	3/4"	----
*CGF-100-B1	1"	----
*CGF-125-B1	1-1/4"	----
*CGF-150-B1	1-1/2"	----
*CGF-200-B1	2"	----
CGF-250-B1	2-1/2"	----
*CGF-300-B1	3"	----
*CGF-400-B1	4"	----
CGF-500-B1	5"	----
CGF-600-B1	6"	----

**DUST CAP  
TYPE DC**

4497X

PART#	SIZE	
CDC-050-B1	1/2"	----
*CDC-075-B1	3/4"	----
*CDC-100-B1	1"	----
CDC-125-B1	1-1/4"	----
CDC-150-B1	1-1/2"	----
*CDC-200-B1	2"	----
CDC-250-B1	2-1/2"	----
*CDC-300-B1	3"	----
*CDC-400-B1	4"	----
CDC-500-B1	5"	----
CDC-600-B1	6"	----

**DUST PLUG  
TYPE DP**

4498X

PART#	SIZE	
CDP-050-B1	1/2"	----
*CDP-075-B1	3/4"	----
*CDP-100-B1	1"	----
CDP-125-B1	1-1/4"	----
CDP-150-B1	1-1/2"	----
*CDP-200-B1	2"	----
CDP-250-B1	2-1/2"	----
*CDP-300-B1	3"	----
*CDP-400-B1	4"	----
CDP-500-B1	5"	----
CDP-600-B1	6"	----

# HANDLES, RINGS AND PINS

## HOSE ACCESSORIES

### QUICKKLOK HANDLE FOR ALUMINUM, BRASS & SS



PART#	SIZE	
HSK2-200-SS	1-1/2"	----
HSK2-300-SS	3"	----
HSK5-200-SS	1-1/2-1	----
HSK5-300-SS	3-4	----

### QUICKKLOK HANDLE FOR SS AND ALUMINUM



PART#	SIZE	
HSK5-200-SS	1-1/2-2"	----
HSK5-300-SS	3-4"	----

### INVESTMENT CAST STAINLESS STEEL HANDLE, RING & PIN



PART#	SIZE	
61447	3/4"	----
61448	1"	----
61449	1-1/4" - 2-1/2"	----
61452	3" & 4"	----
61454	6"	----

### FORGED BRASS HANDLE - RING & PIN STEEL



PART#	SIZE	
61455	3/4"	----
61450	1"	----
61451	1-1/4" - 2-1/2"	----
61453	3" & 4"	----
61457	6"	----

### SAFETY CLIP



PART #	SIZE	
66-015	1-1/4" - 2-1/2"	----

HANDLE + PIN + RING BRASS

"Nothing is particularly hard if you divide it into small jobs"

**"You can't build a reputation on what you are going to do."**

"Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young."

**"Don't find fault, find a remedy; anybody can complain."**

"The only real mistake is the one from which we learn nothing."

**"It has been my observation that most people get ahead during the time that others waste."**

- Henry Ford

**GASKETS**

## HOSE ACCESSORIES

**CAMLOCK GASKET EPDM**

PART#	SIZE	
CG-050-EPDM	1/2"	----
CG-200-EPDM	2"	----
CG-300-EPDM	3"	----

**CAMLOCK GASKET NBR**

PART#	SIZE	
CG-075-NBR	3/4	----
CG-100-NBR	1	----
CG-125-NBR	1-1/4	----
CG-150-NBR	1-1/2	----
CG-200-NBR	2	----
CG-250-NBR	2-1/2	----
CG-300-NBR	3	----
CG-400-NBR	4	----
CG-500-NBR	5	----
CG-600-NBR	6	----
CG-800-NBR	8	----

**CAMLOCK GASKET VITON**

PART#	SIZE	
CG-050-VI	1/2	----
CG-075-VI	3/4	----
CG-100-VI	1	----
CG-125-VI	1-1/4	----
CG-150-VI	1-1/2	----
CG-200-VI	2	----
CG-250-VI	2-1/2	----
CG-300-VI	3	----
CG-400-VI	4	----

**BUNA-N GASKET**

PART#	SIZE	
BG50	1/2"	----
BG75	3/4"	----
BG100	1"	----
BG125	1-1/4"	----
BG150	1-1/2"	----
BG200	2"	----
BG250	2-1/2"	----
BG300	3"	----
BG400	4"	----
BG500	5"	----
BG600	6"	----
BG800	8"	----

**SILICONE GASKET**

PART#	SIZE	
SG300	3"	----
SG400	4"	----

**VITON GASKET**

PART#	SIZE	
VG100	1"	----
VG150	1-1/2"	----
VG200	2"	----
VG250	2-1/2"	----
VG300	3"	----

# COMBINATION NIPPLES

HOSE BARB X MALE PIPE

## STEEL HOSE NIPPLES



CNT-XXX-S

▪ BLACK

(BARB X MALE PIPE)

PART #	HOSE SIZE	
*973850	1/2"	----
*973851	3/4"	----
*973852	1"	----
*973853	1-1/4"	----
*973854	1-1/2"	----
*973855	2"	----
*973856	2-1/2"	----
*973857	3"	----
*973858	4"	----
*CNT-600-S	6"	----
*973861	8"	----
*CNT-1200-S	12"	----

## ZINC PLATED STEEL



CNT-XXX-SP

PART #	SIZE	
*973870	1/2"	----
*973871	3/4"	----
*973872	1"	----
*973873	1-1/4"	----
*973874	1-1/2"	----
*973875	2"	----
*973876	2-1/2"	----
*973877	3"	----
*973878	4"	----
*973879	5"	----
*973880	6"	----
*973881	8"	----
CNT-1200-SP	12"	----

## COMBINATION NIPPLE 316 STAINLESS



CNT-XXX-S316

PART #	SIZE	
*973700	1/2"	----
*973701	3/4"	----
*973702	1"	----
973703	1-1/4"	----
*973704	1-1/2"	----
*973705	2"	----
973706	2-1/2"	----
973707	3"	----
973708	4"	----

## ZINC PLATED STEEL EXPANDER & REDUCER



EXP  
RED

HOSE X MIP

PART #	SIZE	
*973862	3/4 x 1	----
*973884	1 x 3/4	----
973863	1 x 1-1/4	----
*973885	1-1/4 x 1	----
*973886	1-1/4 x 1-1/2	----
*973887	1-1/2 x 1-1/4	----
*973864	1-1/2 x 2	----
*973888	2 x 1-1/2	----
*973859	2 x 2-1/2	----
*973869	2-1/2 x 2	----
*973865	2-1/2 x 3	----
*973867	3 x 2-1/2	----
*973866	3 x 4	----
*973868	4 x 3	----

**KING NIPPLES**

HOSE ACCESSORIES

**COMBINATION NIPPLES  
HOSE BARB X MALE PIPE**

BRASS



CNT-XXX-B

▪ LEAD FREE

PART #	SIZE	
973600	1/2"	----
973601	3/4"	----
973602	1"	----
973603	1-1/4"	----
973604	1-1/2"	----
973605	2"	----
973606	2-1/2"	----
973607	3"	----
CNT-400-B	4"	----

ALUMINUM



CNT-XXX-A

PART #	SIZE	
973620	1/2"	----
973621	3/4"	----
973622	1"	----
973623	1-1/4"	----
973624	1-1/2"	----
*973625	2"	----
*973626	2-1/2"	----
*973627	3"	----
*973628	4"	----

**VICTAULIC GROOVED  
COMBINATION NIPPLES**COMBINATION NIPPLE PLAIN STEEL  
VICTAULIC GROOVED

CNG-S

PART #	HOSE SIZE	
*CNG-200-S	2"	----
*CNG-300-S	3"	----
*CNG-400-S	4"	----
*CNG-600-S	6"	----

COMBINATION NIPPLE  
PLATED VICTAULIC GROOVED

PART#	SIZE	
CNG-150-SP	1-1/2"	----
*CNG-200-SP	2"	----
CNG-250-SP	2-1/2"	----
CNG-300-SP	3"	----
*CNG-400-SP	4"	----
CNG-500-SP	5"	----
*CNG-600-SP	6"	----



# HOSE MENDERS

## MENDER PLAIN STEEL

HM-S



PART #	HOSE SIZE	
973890	1/2"	----
HM-063-S	5/8"	----
973891	3/4"	----
973892	1"	----
973893	1-1/4"	----
973894	1-1/2"	----
973895	2"	----
HM-300-S	3"	----
HM-400-S	4"	----
HM-600-S	6"	----
HM-800-S	5"	----

## MENDER PLATED STEEL



PART #	SIZE	
973650	3/8"	----
973651	1/2"	----
HM-063-SP	5/8"	----
973652	3/4"	----
973653	1"	----
973654	1-1/4"	----
973655	1-1/2"	----
973656	2"	----
973657	2-1/2"	----
973658	3"	----
973659	4"	----
HM-600-SP	6"	----
HM-800-SP	8"	----

## 316 STAINLESS STEEL HOSE MENDER



PART #	SIZE	
73669	1/2"	----
73670	3/4"	----
73671	1"	----
73672	1-1/4"	----
73673	1-1/2"	----
73674	2"	----
73675	2-1/2"	----
73676	3"	----
73677	4"	----

## BRASS HOSE MENDER



• LEAD FREE

PART #	SIZE	
73983	3/4"	----
73984	1"	----
73985	1-1/4"	----
73986	1-1/2"	----
73987	2"	----

**UNIVERSAL COUPLINGS**  
HOSE ACCESSORIES

**UNIVERSAL COUPLING**

**MALE NPT ENDS**

- Twist claw/ universal/ chicago



- Malleable iron
- ISO PSI

ME-XXX-SP \* Safety clip included

PART #	SIZE	
ME-025-SP	1/4"	----
66005	3/8"	----
66006	1/2"	----
66007	3/4"	----
66008	1"	----

**WASHER**



PART #	
66000	----

**FEMALE NPT ENDS**



\* Safety clip included

PART #	SIZE	
FE-025-SP	1/4"	----
66009	3/8"	----
66010	1/2"	----
66011	3/4"	----
66012	1"	----
FE-125-SP	1-1/4"	----
FE-150-SP	1-1/2"	----
FE-200-SP	2"	----

**HOSE END**



SEE CRIMPLOK SECTION

HE-XXX-SP \* Safety clip included

PART #	SIZE	
66001	3/8"	----
66002	1/2"	----
66003	3/4"	----
66004	1"	----
HE-125-SP	1-1/4"	----
HE-150-SP	1-1/2"	----
HE-200-SP	2"	----

**SAFETY CLIP**



PART #	SIZE	
66-015	1-1/4" - 2-1/2"	----

**TRIPLE CONNECTIONS**



UW-300-SP

PART #	
66013	----

**UNIVERSAL BLANK END**



ISO PSI

PART #	SIZE	
BE-300-SP		----

# GROUND JOINT COUPLINGS

HOSE ACCESSORIES

## GROUND JOINT COUPLING

### HIGH PRESSURE FEMALE+ WING NUT+FEMALE SPUD



PART #	SIZE	
73003	1/2	----
73004	3/4	----
73005	1	----
73006	1-1/4	----
73007	1-1/2	----
73008	2	----
73009	2-1/2	----
73010	3	----
73011	4	----

### HIGH PRESSURE WING NUT



PART #	SIZE	PART #	
73033	1/2	*GJN-050-DP	----
73035	3/4	*GJN-075-DP	----
73036	1-1/4	*GJN-125-DP	----
73037	1-1/2	*GJN-150-DP	----
73038	2	*GJN-200-DP	----
73039	2-1/2		
73040	3	*GJN-300-DP	----
73041	4		

### HIGH PRESSURE FEMALE STEM



PART #	SIZE	PART #	
73023	1/2	*GJS-050-SP	----
73024	3/4	*GJS-075-DP	----
73025	1	*GJS-100-DP	----
73026	1-1/4	*GJS-125-DP	----
73027	1-1/2	*GJS-150-DP	----
73028	2	*GJS-200-DP	----
73029	2-1/2"		
73030	3"		
73031	4"		

### HIGH PRESSURE FEMALE SPUD



PART #	SIZE	PART #	
73063	1/2	*GJF-050-SP	----
73064	3/4	*GJF-075-DP	----
73065	1	*GJF-100-DP	----
73066	1-1/4	*GJF-125-DP	----
73067	1-1/2	*GJF-150-DP	----
73068	2	*GJF-200-DP	----
73070	3	*GJF-300-DP	----

### HIGH PRESSURE DOUBLE SPUD



PART #	SIZE	
GDS-050-B	1/2	----
*GDS-075-B	3/4	----

**GROUND JOINT COUPLINGS/ ALUMINUM SHORT SHANKS**

## HOSE ACCESSORIES

**2 BOLT HIGH PRESSURE CLAMP**

PART #	HOSE ID	CLAMP RANGE	MAX BOLT TORQUE	
*BC2-075A-DP	3/4"	1-5/32"-1-9/32"	21FT LBS	----
*BC2-075C-DP	3/4"	1-5/16"-1-1/2"	21FT LBS	----

**4 BOLT HIGH PRESSURE CLAMP**

PART #	HOSE ID	CLAMP RANGE	MAX BOLT TORQUE	
BC4-100B-DP	1"	1.53-1.72	21FT LBS	----
BC4-125-DP	1-1/4"	2.06-2.25	40FT LBS	----
BC4-200A-DP	2"	2-11/32"-2-17/32"	60FT LBS	----
BC4-200-DP	2-1/2"	3-3/32"-3-7/16"	60FT LBS	----

**HIGH PRESSURE MALE STEM**

PART #	LIST	SIZE	PART #	
73043		1/2	*GJM-050-SP	----
73044		3/4	*GJM-075-SP	----
73045		1	*GJM-100-SP	----
73046		1-1/4	*GJM-125-DP	----
73047		1-1/2	*GJM-150-DP	----
73048		2	*GJM-200-DP	----
73049		2-1/2		
73050		3		
73051		4		

**NPT STEEL HEX NIPPLE**

PART #	SIZE	
HNC-04-02-SP	1/4 x 1/8	----
HNC-04-04-SP	1/4 x 1/4	----
HNC-06-04-SP	3/8 x 1/4	----
HNC-06-06-SP	3/8 x 3/8	----
HNC-08-06-SP	1/2 x 3/8	----
HNC-08-08-SP	1/2 x 1/2	----
HNC-12-08-SP	3/4 x 1/2	----
HNC-16-12-SP	1 x 3/4	----

**SHORT SHANK ALUMINUM SET NPS**

PART #	SIZE	
PL-150-AD	1-1/2	----
*PL-200-AD	2	----
*PL-300-AD	3	----
*PL-400-AD	4	----

**FEMALE END**

PART #	SIZE	
PF-150-AD	1-1/2	----
PF-200-AD	2	----
PF-300-AD	3	----
PF-400-AD	4	----
PF-600-AD	6	----

**MALE END**

PART #	SIZE	
PM-150-A	1-1/2	----
PM-200-A	2	----
PM-300-A	3	----

# STRAINERS/ NOZZLES

## HOSE ACCESSORIES

### LARGE SAFETYCHECK FOR HOSE/ HOSE AND HOSE/TOOL



HOSE TO HOSE

PART #	SIZE	
WHIP-L	1-1/2" HOSE, 37" LONG	----
WHIP-S	1/2-1-1/4" HOSE 22" LONG	----

### FOOT VALVE



PART #	SIZE	
*FV-200-DP	2	----
*FV-300-DP	3	----
*FV-400-DP	4	----
*FV-600-DP	6	----

### STRAINER ROUND HOLE



PART #	SIZE	
*SR-200-SP	2	----
*SR-250-SP	2-1/2	----
*SR-300-SP	3	----
*SR-400-SP	4	----
*SR-600-SP	6	----
*SR-800-SP	8	----

### STRAINER ROUND HOLE LONG THIN



PART #	SIZE	
*SL-200-SP	2	----
*SL-300-SP	3	----

### STRAINER BOTTOM HOLE



PART #	SIZE	STRAINER HOSE SIZE	
SB-200-SP	2		----
SB-300-SP	3		----

### STRAINER STRAINER BOTTOM HOLE



PART #	SIZE	
SCR-300-SS304	3	----
SCR-400-SS304	4	----

### PLASTIC FOG NOZZLE GHT



PART #	SIZE	
FN-075	3/4	----
FN-075R	3/4	----

### PLASTIC FOG NOZZLE NPS



PART #	SIZE	
FN-100	1	----
*FN-150	1-1/2	----
FN-200	2	----

### GREEN ABS FOG NOZZLE GHT



PART #	SIZE	
FN-075G	3/4	----

**FIRE HOSE FITTINGS**

## HOSE ACCESSORIES

**FIRE HOSE FITTINGS****HYDRANT ADAPTERS - BRASS**

PART #	DESCRIPTION	
444011	1-1/2" NST x 3/4" GHT	----
444000	2-1/2" NST x 3/4" GHT	----
444001	2-1/2" NST x 3/4" NPT	----
444002	2-1/2" NST x 1" NPT	----
444005	2-1/2" NST x 1-1/2" NPT	----
444007	2-1/2" NST x 2" NPSH	----
444008	2-1/2" NST x 2" NPT	----
444006	2-1/2" NST x 1-1/2" NST	----

**FEMALE TO MALE HEX ADAPTER - BRASS**

PART #	DESCRIPTION	
444021	1-1/2" NST x 1-1/2" NPSH	----
444023	1-1/2" NPT x 1-1/2" NPSH	----
444020	1-1/2" NST x 1-1/2" NPT	----
444318	2 NPT x 2-1/2" NST	----

**CAP - BRASS**

PART #	DESCRIPTION	
444062	2-1/2" NST	----
444313	4-1/2" NST	----
444320	2-1/2" NST PLUG	----
444060	1-1/2" NST	----

**DOUBLE MALE HEX NIPPLE - BRASS**

PART #	DESCRIPTION	
444042	1-1/2" NPT x 1-1/2" NPSH	----
444040	1-1/2" NPT x 1-1/2" NST	----
444048	2" NPT x 2-1/2" NST	----
444095	2-1/2" NST x 1-1/2" NST	----
444045	2-1/2" NPT x 2-1/2" NST	----
444049	3" NPT x 2-1/2" NST	----

**MALE SWIVEL ADAPTER - BRASS W/ LUGS**

PART #	DESCRIPTION FEMALE X MALE	
444111	2-1/2" NST x 2" NPT	----
444112	2-1/2" NST x 2-1/2" NPT	----
444113	2-1/2" NST x 3" NPT	----

**BRASS NOZZLE**

PART #	SIZE	
HN-075-B	3/4"	----
*HN-100-B	1"	----
HN-125-B	1-1/4"	----
HN-150-B	1-1/2"	----
HN-200-B	2"	----
HN-250-B	2-1/2"	----











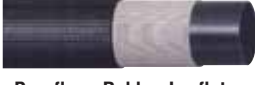



# BUCHANAN HOSE











# HOSE INFORMATION

## HOSE ACCESSORIES

PRODUCT	DESCRIPTION	APPLICATION	PRESSURE	SIZES	TEMPERATURE
<b>Air Hoses - Also Available: Montana, Hi-Temp Steelflex Air, Oroflex Air, Oroflex 20, Duraflex 20 &amp; Hot Air Blower</b>					
	Yellow cut and abrasion resistant cover with blue stripe. Tube is oil resistant synthetic rubber.	A superior quality mining, construction and industrial hose.	400 PSI	1/2" - 4"	-35°C to +80°C -30°F to +180°F
<b>Super Service Air</b>					
	Yellow cut and abrasion resistant rubber cover with oil mist resistant synthetic rubber tube.	For mining, construction, and industrial use.	250 - 300 PSI	1/2" - 4"	-35°C to +80°C -30°F to +180°F
<b>Contractors Air</b>					
	Yellow cut and abrasion resistant cover with red stripe. Tube is oil resistant synthetic rubber.	High pressure steel reinforced air service for mining, construction and industrial use. More resistant to external abuse than textile air hose. Mandrel built.	400 - 1000 PSI	1/2" - 4"	-35°C to +80°C -30°F to +180°F
<b>Steelflex Air</b>					
	Smooth Yellow cut and abrasion resistant rubber cover with oil mist resistant synthetic rubber tube.	An economical air hose for jackhammer and other uses on construction sites. Also for general industrial use.	300 PSI	3/4"	-35°C to +80°C -30°F to +180°F
<b>Jackhammer</b>					
<b>General Purpose - Also Available: General Purpose, Urethane General Purpose &amp; Self Storing Air</b>					
	Red, oil, grease, weather and abrasion resistant nitrile/pvc cover with nitrile tube.	A premium quality long length hose for petroleum based fluids, lubricating oils, air, hot water and some chemical solutions.	250 - 300 PSI	1/4" - 1 1/2"	-32°C to +85°C -25°F to +185°F
<b>Premium General Purpose - Non Conductive</b>					
	Smooth red abrasion and weather resistant EPDM synthetic rubber tube and cover.	Air, water, agricultural spray solutions, and other dilute chemicals. Excellent resistance to heat and weathering. Also resists animal fats, vegetable oils and Methyl Ethyl Ketone.	150 - 250 PSI	1/4" - 2"	-30°C to +93°C -20°F to +200°F
<b>EPDM General Purpose</b>					
	Clear smooth PVC.	An economical FDA quality hose for handling air, water, oil, mild chemicals, and alkalis. Clear wall allows visual inspection of product. 3A/USDA/NSF-51 Compliant.	65 - 250 PSI	3/16" - 2"	-5°C to +65°C +25°F to +150°F
<b>Clear Reinforced PVC</b>					
	Black, Grey, Red, Blue, or Yellow oil, weather and abrasion resistant nitrile/pvc cover with nitrile tube.	Transmission of most petroleum-based hydraulic fluids, mineral oil, diesel fuel, engine coolant solutions, agricultural sprays and a wide range of chemical solutions.	250 - 300 PSI	1/4" - 3/4"	-32°C to +80°C -25°F to +180°F
<b>Push On</b>					
	Blue weather and oil resistant synthetic rubber specially compounded for arctic service featuring a static wire.	A premium general purpose hose for conveying air, water, petroleum products and some chemicals under arctic conditions.	300 PSI	1/2" - 2"	-54°C to +65°C -65°F to +150°F
<b>Arctic General Purpose</b>					
<b>Water Discharge - Also Available: H.D Water Discharge, Garden Hose, High Pressure Water Discharge, Papermill, Packers Washdown, White Sanitary &amp; Single Jacket Industrial Mill</b>					
	Black abrasion, weather and oil resistant nitrile rubber cover with oil resistant nitrile rubber tube.	A lightweight high pressure, extremely strong hose for general water and oil discharge, and for some chemicals.	150 - 200 PSI	1 1/2" - 8"	-20°C to +80°C 0°F to +180°F
<b>Oroflex 10 Layflat</b>					
	Black abrasion, weather and oil resistant nitrile rubber.	This is a lightweight high pressure, extremely strong hose for general water discharge service. Ideal for rental service where long life and competitive pricing is paramount. Its compact characteristics make this an ideal hose for use with portable pumps. Especially suited for pumping oily contaminated water.	150 - 200 PSI	2" - 6"	-20°C to +80°C 0°F to +180°F
<b>Duraflex - Rubber Layflat</b>					
	Smooth cover blue and black (also wrapped version) oil resistant synthetic rubber cover. One high tensile steel braid with oil resistant synthetic rubber tube.	Extremely flexible, compact hose for use on pressure washers with working pressures up to 3000 psi. Available in 4500 psi, 250°F.	3000 PSI	3/8"	-29°C to +100°C -20°F to +212°F
<b>Pressure Washer</b>					

# HOSE INFORMATION

## HOSE ACCESSORIES

PRODUCT	DESCRIPTION	APPLICATION	PRESSURE	SIZES	TEMPERATURE
<b>Water Discharge - Also Available: H.D Water Discharge, Garden Hose, High Pressure Water Discharge, Papermill, Packers Washdown &amp; White Sanitary</b>					
	Blue, Brown or Green PVC impregnation.	Light (Blue) to Heavy (Brown and Green) duty layflat hose for portable pump and irrigation use.	30 - 150 PSI	3/4" - 12"	-10°C to +60°C +15°F to +140°F
<b>PVC Layflat</b>					
	Black abrasion and weather resistant synthetic rubber cover with synthetic rubber tube.	A lightweight water discharge hose which is ideal for use with portable pumps, and general water discharge service.	75 - 100 PSI	1 1/4" - 12"	-35°C to +80°C -30°F to +180°F
<b>Contractors and Contractors Plus Water Discharge</b>					
	Black abrasion and weather resistant synthetic rubber cover with synthetic rubber tube.	For use on construction sites and general water service.	150 - 300PSI	1/2" - 1"	-35°C to +80°C -30°F to +180°F
<b>Contractors Water Discharge - Industrial Garden Hose</b>					
<b>Water Suction - Also Available: EPDM Aggie Water S &amp; D</b>					
	A hose constructed with extra soft PVC, a feature that ensures greater flexibility and ease of handling at very low temperatures. Also available with static wire.	Can be used for light oil, grease and animal fat suction. It can also be used in more general applications where great flexibility is required at very low temperatures.	35 - 70 PSI 29" HG	2" - 6"	-40°C to +60°C -40°F to +140°F
<b>Superflex</b>					
	Black smooth abrasion and weather resistant synthetic rubber.	A heavy duty wire reinforced rubber suction hose for construction, quarries and general use.	50 - 200 PSI 29" HG	3/4" - 12"	-30°C to +80°C -22°F to +180°F
<b>Rubber Water S &amp; D</b>					
	Clear abrasion and weather resistant extra soft low temperature PVC with blue helix	An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations. Soft low temperature compounds allow for increased flexibility.	25 - 45 PSI 29" HG	3/4" - 6"	-40°C to +65°C -40°F to +150°F
<b>Saturn Water S &amp; D</b>					
	Clear abrasion and weather resistant PVC.	An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations.	25 - 90 PSI 28 - 29" HG	3/4" - 8"	-20°C to +65°C -5°F to +150°F
<b>Saturn Green PVC Water S &amp; D</b>					
	Clear abrasion and weather resistant extra soft PVC.	An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations. Specially formulated compounds allow for increased flexibility at low temperatures.	35 - 90 PSI 29" HG	3/4" - 6"	-40°C to +65°C -40°F to +150°F
<b>Saturn Low Temperature PVC Water S &amp; D</b>					
	Clear abrasion and weather resistant PVC.	An economical, flexible hose for construction pumps, septic tank & irrigation lines. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations.	15 - 45 PSI 26 - 29" HG	1" - 12"	-40°C to +65°C -40°F to +150°F
<b>Saturn Grey PVC Water S &amp; D</b>					
	Clear abrasion and weather resistant PVC with high tensile synthetic yarn reinforcement.	Good for both suction and discharge applications, this heavy duty hose can be used for rental/construction pumping as well as fish suction hose.	40 - 110 PSI 28 - 29" HG	2" - 10"	-23°C to +65°C -10°F to +150°F
<b>Textile Reinforced S &amp; D</b>					
	Clear abrasion and weather resistant PVC with white helix.	An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Can also be used in air seeder applications.	35 - 90 PSI	3/4" - 8"	-20°C to +65°C -4°F to +150°F
<b>Saturn White PVC Water Suction and Discharge Hose</b>					

## HOSE INFORMATION











## HOSE ACCESSORIES

PRODUCT	DESCRIPTION	APPLICATION	PRESSURE	SIZES	TEMPERATURE
<b>Water Suction - Also Available: EPDM Aggie Water S &amp; D</b>					
	Green polypropylene and Black EPDM.	Agricultural suction, general industrial use where high working pressures are not required.	22 - 50 PSI 29" HG	1 1/2" - 6"	-40°C to +60°C -40°F to +140°F
<b>EPDM Water Suction</b>					
<b>Steam - Also Available: Textile Steam</b>					
	Red, heat, weather and abrasion resistant EPDM synthetic rubber tube and cover.	An extremely flexible steel reinforced hose for use with saturated steam at pressures to 250 PSI.	250 PSI	1/2" - 3"	-40°C to +210°C -40°F to +406°F
<b>Steam 250</b>					
	Red abrasion resistant EPDM cover with Chlorobutyl synthetic rubber tube.	An extremely flexible steel reinforced hose for use with saturated steam at pressures to 250 PSI. Chlorobutyl tube has a low permeation factor resulting in resistance to popcorning of tube.	250 PSI	1/2" - 2"	-40°C to +210°C -40°F to +406°F
<b>CB Steam 250</b>					
<b>Petroleum - Also Available: Agricultural Farm Tank, Tank Truck Drop, SAE100R4, W187 Vapour Recovery &amp; Hot Tar &amp; Asphalt</b>					
	Black, abrasion, gasoline and oil resistant synthetic rubber with blue stripe.	An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic return line and suction.	150 PSI 29" HG	3/4" - 6"	-35°C to +93°C -30°F to +200°F
<b>Tank Truck</b>					
	Black, abrasion, gasoline and oil resistant synthetic rubber with blue stripe and pressure.	An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions up to 250 PSI. May also be used as hydraulic return line and suction.	250 PSI	2" - 6"	-35°C to +93°C -30°F to +200°F
<b>Super Black 250</b>					
	Blue weather and oil resistant synthetic rubber specially compounded for arctic service. Corrugated with white stripe.	Specially designed to remain flexible while handling a wide range of petroleum products, including gasoline and diesel under arctic conditions.	150 PSI	1 1/2" - 6"	-54°C to +90°C -65°F to +195°F
<b>LW Arctic Superflex 150 Petroleum</b>					
	Black, abrasion and oil resistant synthetic rubber with red stripe.	Specially designed for conveying hot oil and/or Glycol at temperatures up to 120°C (250°F).	150 PSI	2" - 4"	up to +120°C 250°F
<b>H.O.T Oil Tank Truck</b>					
	Black, abrasion, gasoline and oil resistant synthetic rubber with green stripe.	An all purpose lightweight and flexible petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic return line and suction.	150 PSI	2" - 6"	-40°C to +93°C -40°F to +200°F
<b>LW Petroleum Tank 150</b>					
	Red, heat, oil and weather resistant Neoprene cover with nitrile tube.	For handling a wide range of petroleum products, including gasoline, as well as a number of chemical solutions.	150 - 200 PSI	3/4" - 4"	-35°C to +88°C -30°F to +190°F
<b>Petroleum Discharge</b>					
	Black, heat, oil and weather resistant Neoprene.	For handling a wide range of petroleum products, including gasoline, as well as a number of chemical solutions.	250 PSI	2" - 6"	-35°C to +88°C -30°F to +190°F
<b>Petroleum Discharge 250</b>					
	Orange PVC helix with high tensile synthetic yarn reinforcement and built in static wire.	For use as a tank truck gravity drop hose. Also for use with oil, fuel and grease transfer, oil slurry, hydrocarbons and animal fat handling. Features an external helix that protects the hose cover as well as enabling the hose to slide over rough surface.	65 - 70 PSI 28" HG	2" - 4"	-29°C to +65°C -20°F to +150°F
<b>Petroleum Drop Hose</b>					



# HOSE INFORMATION







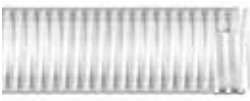

## HOSE ACCESSORIES

PRODUCT	DESCRIPTION	APPLICATION	PRESSURE	SIZES	TEMPERATURE
<b>Petroleum - Also Available: Agricultural Farm Tank, Tank Truck Drop, SAE100R4, W187 Vapour Recovery &amp; Hot Tar &amp; Asphalt</b>					
	Green PVC Helix with polyurethane cover. BDROP is clear wall for flow visibility and BDROPB is black with added UV resistance.	For use as a tank truck gravity drop hose with biofuel, gasoline, diesel and ethanol. Lightweight and flexible with exposed pvc helix making it very user friendly.	65 PSI	3" - 4"	-40°C to +65°C -40°F to +150°F
<b>Urethane Bio-Drop Fuel Hose</b>					
	Convulsed yellow helix.	Vapour recovery from petroleum transfer operations. Embedded static wire serves to dissipate static electricity. NOT SUITABLE FOR CONVEYING LIQUIDS	9 - 17 PSI	2" - 4"	-40°C to +65°C -40°F to +150°F
<b>Vapour Thane Dust &amp; Vapour Recovery Hose</b>					
<b>Material Handling - Also Available: Tan Bulkmaster, Furnace Door Cooling, Concrete Boom, Concrete Placement &amp; Bulkmaster Hardwall</b>					
	Thick black corrugated abrasion and weather resistant synthetic blend cover. Red 3/8" thick super abrasion resistant natural rubber tube.	Primarily designed for handling abrasive slurries in mines and quarries. Can also be used for dry material handling of sand, gravel, grain, slag, and other such materials. External re-usable bolt on flanges allow for ease of installation, and uninterrupted free flow.	150 PSI 30" HG	3" - 12"	-40°C to +80°C -40°F to +180°F
<b>Aztec</b>					
	Black abrasion and weather resistant synthetic rubber cover with black abrasion resistant natural rubber tube. Green stripe on 1/4" thick tube.	Dry bulk discharge including limestone, ground silica, chalk, dry cement, fertilizer etc. May also be used for wet abrasive applications.	75 PSI	3" - 6"	-30°C to +80°C -25°F to +180°F
<b>Bulkmaster Softwall</b>					
	Black static conductive synthetic rubber cover with thick black static conductive abrasion resistant natural rubber tube.	For conducting sand, steel shot, and other abrasives for blast cleaning.	150 PSI	1/2" - 3"	-35°C to +80°C -30°F to +180°F
<b>Sandblast</b>					
	Black weather and abrasion resistant cover with black abrasion resistant pure gum rubber tube.	For handling abrasive dust from wood, metal, rock, marble and concrete grinding machines under vacuum.	40 PSI 10 - 24" HG	1" - 6"	-30°C to +80°C -25°F to +180°F
<b>Industrial Vacuum</b>					
<b>Chemical - Also Available: Hypalon Acid S &amp; D, Viton Lined S &amp; D, EPDM Acid S &amp; D</b>					
	Green smooth chemical resistant EPDM rubber cover with cross-linked polyethylene tube.	The cross-linked polyethylene tube makes this one of the most versatile types of hose available to the chemical industry today. It will handle 90% of known chemical and petroleum products in both suction and discharge applications.	200 PSI 29' HG	1/2" - 4"	-29°C to +120°C -20°F to +248°F
<b>Chemical</b>					
	Green corrugated chemical resistant EPDM rubber with FDA UHMW polyethylene tube.	Similar to Chemical hose above but may be used at lower temperatures. More versatile than our Chemical hose, Flexchem handles 98 per cent of known chemicals and can be steam cleaned. Corrugated cover results in a more flexible hose.	200 PSI 29' HG	3/4" - 4"	-40°C to +65°C -40°F to +150°F
<b>Flexchem</b>					
<b>Material Handling Polyurethane and PVC - Also Available: Grey PVC Vacuum</b>					
	Corrugated clear PVC rigid helix. FDA, 3A and USDA compliant.	Conveying of dry powders, grains and plastic pellets where viewing the product is important. B Flex Static has built-in static wire.	25 - 45 PSI 29" HG	1 1/2" - 3" and 39mm	-23°C to +65°C -10°F to +150°F
<b>B Flex/B Flex Static</b>					
	Corrugated clear PVC with clear rigid PVC helix. FDA, 3A and USDA compliant.	Suction and discharge of liquids, grains, plastic pellets and powders where moderate abrasion is a factor. Netptune Static has built-in static wire.	20 - 55 PSI 29" HG	1" - 8"	-23°C to +65°C -10°F to +150°F
<b>Neptune Suction/Neptune Static Suction</b>					

**Other Hoses Available:** Auto Heater Hose, Marine Hardwall/Softwall/Fuel Fill Hose, Silicone Coolant and Heater Hose, Garage Exhaust Hose, Welding Hose, Pressure Washer Hose, Paint Spray Hose, Auto Fuel Line Hose.

# HOSE INFORMATION

## HOSE ACCESSORIES

PRODUCT	DESCRIPTION	APPLICATION	PRESSURE	SIZES	TEMPERATURE
<b>Material Handling Polyurethane and PVC - Also Available: Grey PVC Vacuum</b>					
	Corrugated clear abrasion and weather resistant Polyurethane with grey PVC helix. FDA, 3A and USDA compliant.	Ideal for applications where conventional rubber or PVC hose will wear rapidly, i.e. grain transfer, abrasive powder recovery, leaf collection. PU Vac Static has built-in static wire.	3 - 50 PSI 29" HG	1 1/2" - 6"	-40°C to +65°C -40°F to +150°F
<b>PU Vac/PU Vac Lite/PU Vac Static</b>					
	Blue HMW PVC up to 5" I.D. Black cover in 6" and 8" I.D.	Used in a variety of material handling application where a good resistance to abrasion is required, such as transfer of sands, plastic pellets, gravel, wood chips, slurries and fly ash. Also for use on vacuum excavation trucks. Cover is a specially formulated static dissipative compound with low temperature flexibility.	30 - 45 PSI 28 - 29" HG	2" - 8"	-40°C to +65°C -40°F to +150°F
<b>ARI HD</b>					
	This hose has a polyurethane tube with an HMC cover. Cover is a specially formulated technical alloy that makes this hose antistatic.	Used in a variety of material handling application where a good resistance to abrasion is required, such as transfer of sands, plastic pellets, gravel, wood chips, slurries and fly ash.	30 - 45 PSI 29" HG	2" - 8"	-40°C to +65°C -40°F to +150°F
<b>ARI</b>					
<b>Food - Also Available: Pure Gum Tubing, Polyethylene Tubing &amp; Clear Vinyl Tubing</b>					
	Smooth clear, food grade PVC non-marking with red rigid PVC helix. FDA, 3A and USDA compliant.	Alcoholic beverages up to 25% alcohol content. Fruit juices, soft drinks and other liquid foodstuffs. Also suitable for dry bulk foodstuffs.	35 - 85 PSI 29" HG	3/4" - 5" and 38 - 50mm	-23°C to +65°C -10°F to +150°F
<b>Bacco</b>					
	Red abrasion resistant natural rubber tube and cover.	Will handle a wide range of non fatty-oily food products up to 80°C where taste and aroma must not be affected.	140 PSI	3/4" - 3"	-35°C to +80°C -30°F to +180°F
<b>Brewers and Beverage Discharge</b>					
	Smooth clear PVC with wire helix. Super Wirevac has additional layer of fabric reinforcement. FDA, 3A, USDA and NSF-51 compliant.	An extremely flexible transparent hose for use where full vacuum performance is required while monitoring the contents of the hose. Ideal for use with most foodstuffs, cosmetics, beverages, and a wide range of chemical solutions. Also suitable for lubricating oils and animal fats.	45 - 250 PSI 28" HG	3/8" - 3"	-10°C to +65°C +15°F to +150°F
<b>Wirevac</b>					
	Clear PVC non-marking. FDA, 3A and USDA compliant.	For dry bulk foodstuffs, pharmaceuticals, cosmetics, milk, fruit and vegetable juices, soft drinks, alcoholic beverages, flour, sugar etc. Clear wall allows visual inspection of the product.	50 - 85 PSI 29" HG	3/4" - 4"	-23°C to +65°C -10°F to +150°F
<b>Foodflex PVC S &amp; D</b>					
	Clear PVC non-marking with high tensile yarn reinforcement. FDA, 3A and USDA compliant.	For liquid or dry bulk foodstuffs, pharmaceuticals, cosmetics, milk, fruit and vegetable juices, soft drinks, alcoholic beverages, flour, sugar, poultry or meat packing etc. Clear wall allows visual inspection of the product.	60 - 110 PSI 28 - 29" HG	2" - 8"	-23°C to +65°C -10°F to +150°F
<b>Foodflex Textile Reinforced S &amp; D (Food Grade)</b>					



# HOSE INFORMATION

## HOSE ACCESSORIES



**AIR & GENERAL PURPOSE HOSE**

## HOSE ACCESSORIES

**CLEAR REINFORCED PVC (FOOD QUALITY)**

**APPLICATION:**An economical hose for handling air, water, oil, mild chemicals, and alkalis. Clear wall allows visual inspection of product. **COVER:**Clear smooth PVC **REINFORCEMENT:**Multiple layers of synthetic yarns  
**TUBE:**Clear smooth PVC

**TEMPERATURE:**-5C to +65C(+25F to +150F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
CRPVC-019	3/16	0.38	250	300	0.05	----
CRPVC-025	1/4	0.43	250	300	0.07	----
CRPVC-025-100	1/4	0.43	250	100	0.07	----
CRPVC-031	5/16	0.53	300	300	0.08	----
CRPVC-031-100	5/16	0.53	300	100	0.08	----
*CRPVC-038	3/8	0.59	250	300	0.09	----
CRPVC-038-100	3/8	0.59	250	100	0.09	----
*CRPVC-050	1/2	0.71	250	300	0.15	----
*CRPVC-050-100	1/2	0.71	250	100	0.15	----
CRPVC-063	5/8	0.87	200	200	0.17	----
CRPVC-063-100	5/8	0.87	200	100	0.17	----
CRPVC-075	3/4	1.02	180	200	0.23	----
CRPVC-075-100	3/4	1.02	180	100	0.23	----
*CRPVC-100	1	1.30	150	200	0.32	----
*CRPVC-100-100	1	1.30	150	100	0.32	----
CRPVC-125	1-1/4	1.61	100	100	0.58	----
CRPVC-150	1-1/2	1.89	85	100	0.69	----
CRPVC-200	2	2.44	65	100	1.00	----

Standard Length: 3/16"-3/4" 100'/300' coil, 1" 100'/200' coil, 1-1/4"-2" 100' coil

Product Info: Compliant with the applicable requirements and standards of FDA USDA 3-A and NSF-51. Please specify length when ordering i.e. 100' or 300'

Safety Info: Working pressure ratings are based on 20C (68F). At operating temperature of +65C (150F) reduce working pressure by 50%. Recommended Couplings: Combination nipples, short shank, brass barbed, cam and groove. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# AIR & GENERAL PURPOSE HOSE

## HOSE ACCESSORIES

### HOT AIR BLOWER HOSE



APPLICATION:FOR CONVEYING HOT AIR FROM BLOWER TO TANK ON DRY BULK TRUCKS.  
COVER:Black heat and weather resistant EPDM rubber.  
REINFORCEMENT:High tensile wire helix embedded between layers of heat resistant synthetic fabric.  
TUBE:Black specially compounded heat resistant EPDM rubber.  
TEMPERATURE:-40C to +163C(-40F to +350F)

PART #	NOM. ID"	NOM. OD"	PSI	BEND RADIUS	STD PACK	WEIGHT#	
*BLOW150-300	3	3.62	150	12.00	100	1.75	----
*BLOW150-400	4	4.65	150	15.00	100	2.40	----

Standard Length: 100'

Recommended Couplings: Cam and groove, combination nipples or short shank. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

### JACKHAMMER - AIR



APPLICATION:AN ECONOMICAL AIR HOSE FOR JACKHAMMER AND OTHER USES ON CONSTRUCTION SITES. ALSO FOR GENERAL INDUSTRIAL USE

COVER:Red smooth cut and abrasion resistant REINFORCEMENT:Multiple layers of synthetic yarn

TUBE:Synthetic oil mist resistant

TEMPERATURE:-35C to +80C(-30F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	COLOR	
JACK-075-50	3/4	1.14	300	50	0.40	Yellow	----
JACK-075R-50	3/4	1.14	300	50	0.40	Red	----
JACK-075G-50	3/4	1.14	300	50	0.40	Green	----
JACK-075BL-50	3/4	1.14	300	50	0.40	Blue	----
JACK-075-CUASSP*	3/4"	1.14	300	50	0.40	Red	----

Standard Length: 50'

Recommended Couplings: High Pressure, mine stem and nut, Universal quick acting. Crimplok universals. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

\* C/W CRIMP UNIVERSAL ASSEMBLED

**AIR & GENERAL PURPOSE HOSE**

## HOSE ACCESSORIES

**EPDM GENERAL PURPOSE 300**

**APPLICATION:**Air, water, agricultural spray solutions, and other dilute chemicals Excellent resistance to heat and weathering Also resists animal fats, vegetable oils.

**COVER:**Smooth red abrasion and weather resistant EPDM synthetic rubber

**REINFORCEMENT:**Multiple layers of synthetic yarn **TUBE:**Synthetic oil mist resistant EPDM synthetic rubber

**TEMPERATURE:**-30C to +93C(-20F to +200F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
*GPE-025-300	1/4	0.55	300	300	0.14	----
*GPE-038-300	3/8	0.70	300	300	0.20	----
*GPE-050-300	1/2	0.87	300	300	0.27	----
*GPE-063-300	5/8	0.98	300	300	0.31	----
GPE-075-300	3/4	1.16	300	300	0.44	----
* GPE-100-300	1	1.42	300	300	0.59	----

Standard Length: 300'

Recommended Couplings: High Pressure, Short shank, universal, or Combination nipples all other sizes. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating then the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**PREMIUM GENERAL PURPOSE NON CONDUCTIVE WITH REEL**

**APPLICATION:** A premium quality long length hose for petroleum based fluids, lubricating oils, air, hot water and some chemical solutions.

**COVER:** Red, oil, grease, weather and abrasion resistant nitrile.

**REINFORCEMENT:** Multiple layers of synthetic yarn

**TUBE:** Black oil resistant nitrile rubber

**TEMPERATURE:** -32C to +85C(-25F to +185F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
PREMR-038-300	3/8	0.67	300	300	0.17	----
PREMR-050-300	1/2	0.79	300	300	0.21	----
PREMR-075-300	3/4	1.14	300	300	0.39	----
PREMR-100-300	1	1.42	300	300	0.51	----
PREM-125-250	1-1/4	1.77	300	200	0.70	----

Standard Length: 1/4"- 1" 50'/100'/300! 1-1/4" - 2" 50'/100'

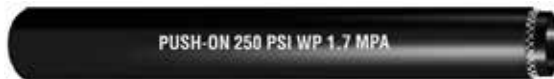
Recommended Couplings: High Pressure 1"to 1-1/2" for air service if the working pressure exceeds 150 psi.

High Pressure, Short shank, universal, or Combination nipples all other sizes. Crimplok universals. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating then the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# AIR & GENERAL PURPOSE HOSE

## HOSE ACCESSORIES

### PUSH-ON BLACK



APPLICATION:Transmission of most petroleum-based hydraulic fluids, mineral oil, diesel fuel, engine coolant solutions, agricultural sprays and a wide range of chemical solutions. Also suitable for air and water service

COVER:Black, oil, weather and abrasion resistant Neoprene.

REINFORCEMENT:Multiple layers of polyester yarns.

TUBE:Black oil resistant nitrile rubber.

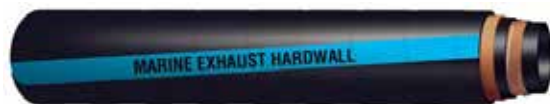
TEMPERATURE:-32C to +80C(-25F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
PON-025-B	1/4	0.50	250	700'	0.10	----
PON-038-B	3/8	0.63	250	700'	0.14	----
PON-050-B	1/2	0.75	250	700'	0.17	----
PON-063-B	5/8	0.91	250	700'	0.19	----
PON-075-B	3/4	1.03	250	500'	0.19	----

Standard Length: Supplied on reels

Recommended Couplings: Push-on

### MARINE EXHAUST HARDWALL



APPLICATION:Marine exhaust applications, and other general applications where non-standard sizes are specified. Meets SAEJ 2006 R1

COVER:Black heat and weather resistant synthetic rubber with blue identification stripe.

REINFORCEMENT:High tensile wire helix embedded between layers of textile cords.

TUBE:Black heat resistant rubber specially compounded for wet marine exhaust service.

TEMPERATURE:-40C to +100C(-40F to +212F)

PART #	NOM. ID"	NOM. OD"	STD PACK	WEIGHT#	
MXH-238	2-3/8	2.68	100'	1.98	----
MXH-250	2-1/2	2.81	100'	1.82	----
MXH-300	3	3.54	100'	2.12	----
MXH-350	3-1/2	4.09	100'	2.77	----
MXH-400	4	4.57	100'	3.22	----
MXH-500	5	5.55	100'	3.59	----

Standard Length: Supplied on reels

Recommended Couplings: Push-on



**MATERIAL HANDLING**

## HOSE ACCESSORIES

**FUEL LINE**

**APPLICATION:**Fuel and vapour emission lines, meets SAE 30R7 specification and is USCG Type B and BIA approved.

**COVER:**Black heat and fuel resistant Hypalon.

**REINFORCEMENT:**Two layers of synthetic yarns.

**TUBE:**Black fuel resistant nitrile rubber.

**TEMPERATURE:**-40C to +120C(-40F to +250F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
FUEL-025	1/4	0.49	50	300'	0.10	----
FUEL-031	5/16	0.58	50	300'	0.13	----
FUEL-038	3/8	0.63	50	300'	0.13	----

Cut Lengths: Plus 5%

Standard Length: 300' coils:

Recommended Couplings: Barbed short shank, combination nipples.

**ARI SUCTION**

**APPLICATION:**Used in a variety of material handling application where a good resistance to abrasion is required, such as transfer of sands, plastic pellets, gravel, wood chips, slurries and fly ash. Cover is a specially formulated static dissipative compound with low temperature flexibility.

**COVER:**Black HMW PVC

**REINFORCEMENT:**Anti shock rigid pvc helix

**TUBE:**Polyurethane

**TEMPERATURE:**-40C to +65C(-40F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
ARI-300	3	3.65	29	40	4.00	100'	1.18	----
ARI-400	4	4.76	29	35	6.00	100'	1.95	----
ARI-600	6	6.80	28	30	12.00	100'	3.51	----

Standard Length: 100'

Safety Info: Suction and pressure ratings are based on a temperature of 20C (68F), reduce ratings by 50% at maximum working temperature. This

hose has no fabric reinforcement and normally should not be used under pressure for service at temperatures above 25C (75F).

Recommended Couplings: Cam and groove



## MATERIAL HANDLING

### HOSE ACCESSORIES

#### BULKMASTER SOFTWALL



APPLICATION: Dry bulk discharge including limestone, ground silica, chalk, dry cement, fertilizer etc. May also be used for wet abrasive applications.

COVER: Black abrasion and weather resistant synthetic rubber.

REINFORCEMENT: Multiple layers of high tensile synthetic cords.

TUBE: Black abrasion resistant ant-static natural rubber in 1/8", 3/16" and 1/4"

TEMPERATURE: -30C to +80C (-25F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
BSB-400-187	4	4.64	75	100'	2.33	----
BSB-400-250	4	4.72	75	100'	2.65	----
BSB-450-125	4-1/2	5.00	75	100'	2.09	----
BSB-500-187	5	5.63	75	100'	2.75	----
BSB-500-250	5	5.79	75	100'	3.50	----
BSB-600-250	6	6.81	75	100'	4.29	----

Standard Length: 100'

Product Info: Longer lengths available, check for price and availability

Recommended Couplings: Cam and groove. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

#### INDUSTRIAL VACUUM HEAVY DUTY LENGTHS



APPLICATION: For handling abrasive dust from wood, metal, rock, marble and concrete grinding machines under vacuum.

COVER: Black abrasion resistant rubber, corrugated for flexibility.

REINFORCEMENT: A high tensile steel helix embedded between layers of textile cords.

TUBE: 1/4" or 1/8" red Pure Gum abrasion resistant rubber standard.

TEMPERATURE: -30C to +80C (-25F to +180F)

PART #	ASSEMBLY DESCRIPTION	NOM. OD"	VACUUM	PSI	BEND RADIUS"	WEIGHT#	
IVB-800-250RPG2	8"x25' H.D.IND VAC. 1/4" Red w/cuffs	9.01	28	50	30.00	190.00	----
IVB-800-250RPG3	8"x32' H.D.IND VAC. 1/4" Red w/cuffs	9.01	28	50	30.00	243.80	----
IVB-800-250RPG7	8"x70' H.D.IND VAC. 1/4" Red Tube	9.01	28	50	30.00	716.10	----

**MATERIAL HANDLING**

## HOSE ACCESSORIES

**SANDBLAST**

**APPLICATION:**For conducting sand, steel shot, and other abrasives for blast cleaning.

**COVER:**Black static conductive synthetic rubber.

**REINFORCEMENT:**Two (SBB) or Four (SBB4) layers of synthetic textile cords.

**TUBE:**Thick black static conductive abrasion resistant natural rubber.

**TEMPERATURE:**-35C to +80C(-30F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
SBB-075-100	3/4	1.50	150	100'	0.68	----
SBB-075-50	3/4	1.50	150	50'	0.68	----
SBB-125-100S	1-1/4	2.16	150	100'	1.22	----
SBB-125-50S	1-1/4	2.16	150	50'	1.22	----
SBB-150-50	1-1/2	2.36	150	50'	1.36	----
SBB-300	3	3.98	150	100'	2.57	----

Standard Length: 50'/100'

Product Info: Longer lengths available up to 200'. Surcharges may apply

Recommended Couplings: Sandblast

**EPDM WATER SUCTION**

**APPLICATION:**For use in liquid waste suction application. Also for use with liquid or dry chemical suction applications or general industrial use where high working pressures are not required.

**COVER:**Green Polyethylene helix and specially formulated rubber.

**REINFORCEMENT:**Rigid green Polyethylene helix.

**TUBE:**Smooth specially formulated rubber

**TEMPERATURE:**-40C to +60C(-40F to +140F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
EPDM-150	1-1/2	1.85	29	50	3.50	100'	0.40	----
EPDM-200	2	2.44	29	50	5.50	100'	0.67	----
EPDM-300	3	3.52	29	42	7.50	100'	1.10	----
EPDM-400	4	4.61	29	38	12.00	100'	1.84	----

Standard Length: 100'

Recommended Couplings: Cam and groove or short shank, Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# PETROLEUM STEAM & CHEMICAL HOSE

## HOSE ACCESSORIES

### FLEXLITE UHMW



**APPLICATION:**The (UHMW) Ultra High Molecular Weight polyethylene tube makes this one of the most versatile types of hose available to the chemical industry today. It will handle 94% of common chemical and petroleum products in both suction and discharge applications. This hose is very flexible due to its corrugated cover and low temperature characteristics. This hose can also be used in dry food applications due to its FDA Compliant tube.

**COVER:**Green corrugated chemical resistant EPDM rubber

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Smooth chemical resistant (UHMW) Ultra High Molecular Weight polyethylene FDA Compliant tube

**TEMPERATURE:**-40C to +100C(-40F to +212F) Can be open end steam cleaned to 120C or 248F for 30 minutes

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
FLX-075	3/4	1.22	29	200	2.00	100'	0.40	----
FLX-100	1	1.46	29	200	2.50	100'	0.47	----
FLX-150	1-1/2	2.01	29	200	3.75	100'	0.80	----
FLX-200	2	2.52	29	200	5.00	100'	1.00	----
FLX-300	3	3.58	29	200	7.50	100'	1.74	----
FLX-400	4	4.64	29	150	10.00	100'	2.48	----

Standard Length: 100'

**Recommended Couplings:** Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose.

### FLEXCHEMS



**APPLICATION:**The (UHMW) Ultra High Molecular Weight polyethylene tube makes this one of the most versatile types of hose available to the chemical industry today. It will handle 94% of common chemical and petroleum products in both suction and discharge applications. This hose is very flexible due to its corrugated cover and low temperature characteristics. This hose can also be used in dry food applications due to its FDA Compliant tube.

**COVER:**Green chemical resistant EPDM rubber

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Smooth chemical resistant (UHMW) Ultra High Molecular Weight polyethylene FDA Compliant tube

**TEMPERATURE:**-40C to +100C(-40F to +212F) Can be open end steam cleaned to 120C or 248F for 30 minutes

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
FLXS-100	1	1.46	29	200	4.00	100'	0.62	----
FLXS-200	2	2.60	29	200	6.00	100'	1.14	----
FLXS-300	3	3.62	29	200	8.00	100'	2.26	----
FLXS-400	4	4.65	29	200	12.00	100'	3.25	----

Standard Length: 100'

**Recommended Couplings:** Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**PETROLEUM STEAM AND CHEMICAL HOSE**

## HOSE ACCESSORIES

**FLEXLITE PETROLEUM TANK 150**

**APPLICATION:**An all purpose lightweight and flexible petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic suction and return line.

**COVER:**Black corrugated, abrasion, gasoline and oil resistant synthetic rubber with green stripe.

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black nitrile rubber for maximum oil resistance.

**TEMPERATURE:**-40C to +93C(-40F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
TTD150-200	2	2.53	29	150	4.00	100'	1.44	----
TTD150-300	3	3.62	29	150	6.00	100'	2.48	----
TTD150-400	4	4.72	29	150	9.00	100'	3.63	----

Standard Length: 100'

Product Info: Longer lengths available on request. Please check for availability and pricing

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**TANK TRUCK 150**

**APPLICATION:** An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic suction and return line.

**COVER:**Black, abrasion, gasoline and oil resistant synthetic rubber with red stripe and pressure.

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black nitrile rubber for maximum oil resistance.

**TEMPERATURE:**-35C to +93C(-30F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
TLBS150-100	1	1.42	29	150	3.00	100	0.57	----
TLBS150-150	1-1/2	1.93	29	150	4.00	100	0.81	----
TLBS150-200	2	2.52	29	150	4.50	100	1.38	----
TLBS150-300	3	3.54	29	150	7.00	100	2.19	----
TLBS150-400	4	4.68	29	150	10.00	100	3.56	----
TLBS150-600	6	6.89	29	150	21.00	100	6.65	----

Standard Length: 100'

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# PETROLEUM STEAM & CHEMICAL HOSE

## HOSE ACCESSORIES

### TANK TRUCK



**APPLICATION:**An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic suction and return line.

**COVER:**Black, abrasion, gasoline and oil resistant synthetic rubber with blue stripe and pressure

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black nitrile rubber for maximum oil resistance.

**TEMPERATURE:**-35C to +93C(-30F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
TLB-075	3/4	1.14	29	150	3.00	100'	0.43	----
TLB-100	1	1.42	29	150	3.00	100'	0.57	----
TLB-125	1-1/4	1.65	29	150	3.50	100'	0.62	----
TLB-150	1-1/2	1.93	29	150	4.00	100'	0.81	----
TLB-200	2	2.52	29	150	4.50	100'	1.38	----
TLB-250	2-1/2	2.99	29	150	4.75	100'	1.72	----
TLB-400	4	4	29	150	10.00	100'	3.56	----
TLB-600	6	6	29	150	21.00	100'	6.65	----

### OIL VACUUM - SMOOTH



**APPLICATION:**An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions. May also be used as hydraulic suction and return line.

**COVER:**Black, abrasion, gasoline and oil resistant synthetic rubber with red stripe and pressure.

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black nitrile rubber for maximum oil resistance.

**TEMPERATURE:**-35C to +93C(-30F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
OILVS-150	1-1/2	1.89	29	150	4.00	100	0.75	----
OILVS-200	2	2.43	29	150	4.50	100	1.07	----
OILVS-300	3	3.47	29	150	7.00	100	1.78	----
OILVS-400	4	4.52	29	150	10.00	100	2.58	----
OILVS-600	6	6.60	29	150	21.00	100	5.50	----

Standard Length: 100'

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**PETROLEUM STEAM AND CHEMICAL HOSE**

## HOSE ACCESSORIES

**TANK TRUCK 300**

**APPLICATION:**An all purpose petroleum suction and discharge hose for use with gasoline, kerosene, diesel, oil suspensions and emulsions up to 300 PSI. May also be used as hydraulic suction and return line.

**COVER:**Black, abrasion, gasoline and oil resistant synthetic rubber with red stripe and pressure

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black nitrile rubber for maximum oil resistance.

**TEMPERATURE:**-35C to +93C(-30F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
TLBS300-200	2	2.62	29	300	5.00	100'	1.43	----
TLBS300-300	3	3.67	29	300	7.00	100'	2.20	----
TLBS300-400	4	4.71	29	300	10.00	100'	3.63	----
TLBS300-600	6	6.91	29	300	21.00	100'	6.90	----

Standard Length: 100'

**Recommended Couplings:** Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**OIL VACUUM CORRUGATED**

**APPLICATION:**Designed for transferring petroleum waste, sediments, sludge, diluted mild chemicals, brine and water in oil field tank and waste pit recovery applications, not suitable for refined petroleum products or high concentrations of chemicals

**COVER:**Black, corrugated abrasion oil resistant synthetic rubber with blue stripe and pressure

**REINFORCEMENT:**High tensile wire helix embedded between layers of textile cords.

**TUBE:**Black synthetic rubber for maximum oil resistance.

**TEMPERATURE:**-35C to +93C(-30F to +200F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
OILVC-200	2	2.44	29	150	4.00	100'	0.89	----
OILVC-300	3	3.46	29	150	6.00	100'	1.42	----
OILVC-400	4	4.52	29	150	9.00	100'	2.44	----

Standard Length: 100'

**Recommended Couplings:** Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.



---

## PETROLEUM STEAM AND CHEMICAL HOSE

### HOSE ACCESSORIES

---

#### FRACLINE 400



**APPLICATION:**For handling a wide range of petroleum products, including gasoline, as well as a number of chemical solutions. Specifically designed for use in Frac service.

**COVER:**Black, heat, oil and weather resistant Neoprene.

**REINFORCEMENT:**Multiple layers of synthetic textile cords, with static wire.

**TUBE:**Black, heat and oil resistant synthetic rubber.

**TEMPERATURE:**-35C to +88C(-30F to +190F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
FRAC400-300	3	3.65	400	100'	1.80	----
FRAC400-400	4	4.80	400	100'	2.81	----
FRAC400-600	6	6.80	400	100'	5.20	----

Standard Length: 100'

Recommended Couplings: Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

---

#### PETROLEUM DISCHARGE



**APPLICATION:**For handling a wide range of petroleum products, including gasoline, as well as a number of chemical solutions.

**COVER:**Red, heat, oil and weather resistant Neoprene.

**REINFORCEMENT:**Multiple layers of synthetic textile cords, with static wire.

**TUBE:**Black, heat and oil resistant synthetic rubber.

**TEMPERATURE:**-35C to +88C(-30F to +190F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
PDR-125	1-1/4	1.69	150	100'	0.58	----
PDR-150	1-1/2	1.97	150	100'	0.78	----
PDR-300	3	3.50	150	100'	1.64	----
PDR-400	4	4.57	150	100'	2.46	----
PDR-600	6	6.72	150	100'	3.89	----

Standard Length: 50'/100'

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference.

**PETROLEUM STEAM AND CHEMICAL HOSE**

## HOSE ACCESSORIES

**PETROLEUM DISCHARGE 250**

**APPLICATION:**For handling a wide range of petroleum products, including gasoline, as well as a number of chemical solutions. Specifically designed for use in Frac service.

**COVER:**Black, heat, oil and weather resistant Neoprene.

**REINFORCEMENT:**Multiple layers of synthetic textile cords, with static wire.

**TUBE:**Black, heat and oil resistant synthetic rubber.

**TEMPERATURE:**-35C to +88C(-30F to +190F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
PDB250-200	2	2.50	250	100'	1.14	----
PDB250-300	3	3.54	250	100'	1.80	----
PDB250-400	4	4.64	250	100'	2.81	----
PDB250-600	6	6.69	250	100'	5.20	----

Standard Length: 50'/100'

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**HOT TAR AND ASPHALT**

**APPLICATION:**Specially designed for conveying hot tar and asphalt at temperatures up to 160 C (350 F).

**COVER:**Black Neoprene synthetic rubber.

**REINFORCEMENT:**High tensile wire helix embedded between multiple layers of heat resistant synthetic yarns

**TUBE:**Specially compounded heat resistant synthetic rubber compound.

**TEMPERATURE:**up to +177C(350F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
HTA-300	3	3.77	150	100'	2.94	----
HTA-400	4	4.85	150	100'	4.20	----

Standard Length: 100'

Recommended Couplings: Cam and Grove, combination nipple. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# PETROLEUM STEAM AND CHEMICAL HOSE

## HOSE ACCESSORIES

### PETROLEUM TRANSFER



**APPLICATION:**For use with oil, fuel and grease transfer, oil slurry, hydrocarbons and animal fat handling. Features an external helix that protects the hose cover as well as enabling the hose to slide over rough surface. Static wire embedded in helix for ease of grounding.

**COVER:**Orange PVC Helix with built in static wire

**REINFORCEMENT:**High tensile synthetic textile yarn

**TUBE:**Specially formulated compound for fuel transfer

**TEMPERATURE:**-40C to +93C(-40F to +200F)

PART #	NOM. ID"	NOM. OD"	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
FLDROP-200	2	2.87	150	5.00	100'	1.29	----
FLDROP-400	4	5.00	75	12.00	100'	2.51	----

Standard Length: 50'/100'

Recommended Couplings: Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

### STEAM 250 BLACK



**APPLICATION:**An extremely flexible hose for use with saturated steam at pressures to 250 PSI .

**COVER:**Black abrasion and heat resistant EPDM rubber, with embossed brand and pressure.

**REINFORCEMENT:**Multiple layers of high tensile steel cords.

**TUBE:**Black heat resistant EPDM synthetic rubber.

**TEMPERATURE:**-40C to +210C(-40F to +406F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
ST250B-075-50	3/4	1.26	250	50'	0.48	----
ST250B-100-50	1	1.50	250	50'	0.60	----
ST250B-150-50	1-1/2	2.13	250	50'	1.10	----
ST250B-200-50	2	2.64	250	50'	1.48	----

Standard Length: 50'

Recommended Couplings: High Pressure with interlocking clamps

**PETROLEUM STEAM AND CHEMICAL HOSE**

## HOSE ACCESSORIES

## STEAM 250



**APPLICATION:**An extremely flexible hose for use with saturated steam at pressures to 250 PSI .

**COVER:**Red abrasion and heat resistant EPDM rubber, with embossed brand and pressure.

**REINFORCEMENT:**Multiple layers of high tensile steel cords.

**TUBE:**Black heat resistant EPDM synthetic rubber.

**TEMPERATURE:**-40C to +210C(-40F to +406F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
ST250-075-50	3/4	1.26	250	50'	0.48	----
ST250-075-100	3/4	1.26	250	100'	0.48	----
ST250-100-50	1	1.50	250	50'	0.60	----
ST250-100-100	1	1.50	250	100'	0.60	----
ST250-200-50	2	2	250	50'	1.48	----
ST250-200-100	2	2	250	100'	1.48	----
ST250-300	3	3	250	100'	3.40	----

Standard Length: 50'/100'

Product Info: Longer lengths available on request. Please check for availability and pricing

Recommended Couplings: High Pressure with interlocking clamps

Work hard for what you want because it won't come to you without a fight. You have to be strong and courageous and know that you can do anything you put your mind to. If somebody puts you down or criticizes you, just keep on believing in yourself and turn it into something positive.

- Leah LaBelle

# WATER SUCTION & DISCHARGE HOSE

## HOSE ACCESSORIES

### BLUE LAYFLAT



APPLICATION: A LIGHT DUTY LAYFLAT HOSE FOR PORTABLE PUMP AND IRRIGATION USE.  
COVER: Blue PVC impregnation. REINFORCEMENT: Woven high tensile synthetic yarns. TUBE: Blue PVC impregnation.

TEMPERATURE: -10C to +55C (15F to +130F)

PART #	NOM. ID"	NOM.OD"	PSI	STD PACK	WEIGHT#	
BLAY-100	1	1.11	150	300	0.13	----
BLAY-125	1-1/4	1.37	130	300	0.15	----
BLAY-150	1-1/2	1.63	70	300	0.15	----
*BLAY-200	2	2.13	65	300	0.20	----
BLAY-250	2-1/2	2.63	65	300	0.27	----
*BLAY-300	3	3.13	60	300	0.33	----
*BLAY-400	4	4.14	60	300	0.46	----
*BLAY-600	6	6.15	35	300	0.78	----

Standard Length: Multiples of 50' up to 300' maximum

Product Info: Please specify length required when ordering, i.e. 50', 100'

Safety Info: Reduce pressures by 50% at maximum working temperature

Recommended Couplings: Cam and groove or short shank

### BLUE LAYFLAT ASSEMBLY



PART #	ASSEMBLY DESCRIPTION	WEIGHT#	
BLAY-150-CASS	1-1/2" X 50' BLUE LAYFLAT +C/E CAMLOCK	7.00	----
BLAY-200-CASS	2" X 50' BLUE LAYFLAT +C/E CAMLOCK	12.20	----
*BLAY-300-CASS	3" X 50' BLUE LAYFLAT +C/E CAMLOCK	20.63	----
*BLAY-400-CASS	4" X 50' BLUE LAYFLAT +C/E CAMLOCK	29.49	----
BLAY-600-CASS	6" X 50' BLUE LAYFLAT +C/E CAMLOCK	51.08	----

**WATER SUCTION & DISCHARGE HOSE**

HOSE ACCESSORIES

**BROWN LAYFLAT - HEAVY DUTY**

APPLICATION: Heavy duty layflat hose for portable pump and irrigation use.

COVER: Brown PVC impregnation.

REINFORCEMENT: Woven high tensile synthetic yarns.

TUBE: Brown heavy PVC impregnation.

TEMPERATURE: -10C to +60C (15F to +140F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
BRLAYHD-200	2	2.15	150	300'	0.26	----
BRLAYHD-300	3	3.19	150	300'	0.52	----
BRLAYHD-400	4	4.27	135	300'	0.74	----
BRLAYHD-600	6	6.26	115	300'	1.21	----

Successful people maintain a positive focus in life no matter what is going on around them. They stay focused on their past successes rather than their past failures, and on the next action steps they need to take to get them closer to the fulfillment of their goals rather than all the other distractions that life presents to them.

- Jack Canfield



# WATER SUCTION & DISCHARGE HOSE

## HOSE ACCESSORIES

### DURAFLEX - RUBBER LAYFLAT



APPLICATION:SPECIFICALLY MANUFACTURED TO COMPETE WITH OROFLEX IMITATION HOSE. THIS IS A LIGHTWEIGHT HIGH PRESSURE, EXTREMELY STRONG HOSE FOR GENERAL WATER DISCHARGE SERVICE. IDEAL FOR RENTAL SERVICE WHERE LONG LIFE AND

competitive pricing is paramount. Its compact characteristics make this an ideal hose for use with portable pumps. Especially suited for pumping oily contaminated water. COVER:Black abrasion, weather and oil resistant nitrile rubber. REINFORCEMENT:Circular woven synthetic yarns.

TUBE:Black abrasion and oil resistant nitrile rubber.

TEMPERATURE:-20C to +80C(0F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
DURFL-200	2	2.18	200	200	0.31	----
*DURFL-300	3	3.22	175	200	0.59	----
*DURFL-400	4	4.24	150	200	0.65	----
*DURFL-600	6	6.26	150	200	1.10	----

Standard Length: 50'/100'

Product Info: 200 Lengths Will Be Shipped Unless Otherwise Specified On Duraflex

Recommended Couplings: Cam and groove, combination nipples or short shank. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

### DURAFLEX - RUBBER LAYFLAT ASSEMBLY



PART #	ASSEMBLY DESCRIPTION	WEIGHT#	
DURFL-200-CASSP	2"x50' DURAFLEX + C/E CAMLOCK	14.20	----
DURFL-300-CASSP	3"x50' DURAFLEX + C/E CAMLOCK	21.63	----
DURFL-400-CASSP	4"x50' DURAFLEX + C/E CAMLOCK	28.99	----
DURFL-600-CASSP	6"x50' DURAFLEX + C/E CAMLOCK	51.67	----

**WATER SUCTION & DISCHARGE HOSE**

## HOSE ACCESSORIES

**HIGH PRESSURE CONTRACTORS WATER DISCHARGE**

**APPLICATION:**For use on construction sites and general water service. High pressure allows pumping against greater vertical heads

**COVER:**Black abrasion and weather resistant synthetic rubber, with embossed brand and pressure.

**REINFORCEMENT:**Multiple layers of synthetic yarn.

**TUBE:**Black synthetic rubber compounded for water service.

**TEMPERATURE:**-35C to +80C(-30F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
HPCWB-150	1-1/2	1.77	150	100'	0.49	----
HPCWB-200	2	2.28	150	100'	0.48	----
HPCWB-300	3	3.35	150	100'	1.08	----
HPCWB-400	4	4.37	150	100'	1.38	----
HPCWB-600	6	6.46	150	100'	2.62	----

Standard Length: 50'/100'

Recommended Couplings: Cam and groove, combination nipples or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**HIGH PRESSURE WATER DISCHARGE 250**

**APPLICATION:**For use on construction sites and general water service. High pressure allows pumping against greater vertical heads

**COVER:**Black abrasion and weather resistant synthetic rubber, with embossed brand and pressure.

**REINFORCEMENT:**Multiple layers of synthetic yarn.

**TUBE:**Black synthetic rubber compounded for water service.

**TEMPERATURE:**-35C to +80C(-30F to +180F)

PART #	NOM. ID"	NOM. OD"	PSI	STD PACK	WEIGHT#	
HPCWB200-150	1-1/2			100'		----
HPCWB250-200	2	2.40	250	100'	1.15	----
HPCWB250-300	3	3.46	250	100'	1.60	----
HPCWB200-400	4	4.48	200	100'	2.15	----

Standard Length: 100'

Recommended Couplings: Cam and groove, combination nipples or short shank. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# WATER SUCTION & DISCHARGE HOSE

## HOSE ACCESSORIES

### SATURN GREEN PVC WATER S&D



APPLICATION: An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations.

COVER: Clear abrasion and weather resistant PVC.

REINFORCEMENT: Green PVC helix.

TUBE: Smooth clear PVC.

TEMPERATURE: -20C to +65C (-5F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
SATG-075	3/4	0.95	29	90	2.00	100	0.16	----
*SATG-100	1	1.24	29	85	3.00	100	0.26	----
*SATG-125	1-1/4	1.54	29	80	4.00	100	0.34	----
*SATG-150	1-1/2	1.81	29	70	6.00	100	0.44	----
*SATG-200	2	2.29	29	65	5.00	100	0.57	----
SATG-250	2-1/2	2.85	29	60	6.00	100	0.87	----
*SATG-300	3	3.43	29	60	12.00	100	1.21	----
SATG-400	4	4.45	29	50	10.00	100	1.78	----

Standard Length: 100'

Safety Info: Reduce pressures by 50% at maximum working temperature

Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

### SATURN OLIVE GREEN PVC WATER S&D



APPLICATION: AN ECONOMICAL, FLEXIBLE HOSE FOR CONSTRUCTION PUMPS, SEPTIC TANK & MARINE PUMP-OUT SERVICE. RESISTANT TO SOME CHEMICALS, MILD ACIDS & ALKALIS. CONSULT US FOR RECOMMENDATIONS.

COVER: Green abrasion and weather resistant PVC.

REINFORCEMENT: Green PVC helix

TUBE: Smooth green PVC

TEMPERATURE: -20C to +65C (-5F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	BEND RADIUS"	STD PACK	WEIGHT#	
*SATO-200	2	2.34	29	5.00	100	0.66	----
*SATO-300	3	3.46	29	12.00	100	1.24	----
SATO-400	4	4.49	29	10.00	100	1.85	----

Standard Length: 100'

Safety Info: Suction and Pressure ratings are based on a temperature of 20C (68F), reduce by 50% at maximum working temperature

Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**WATER SUCTION & DISCHARGE HOSE**

## HOSE ACCESSORIES

**SATURN PVC WATER S&D**

**APPLICATION:**An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations. Specially formulated compounds and a slightly corrugated cover allow for increased flexibility at low temperatures.

**COVER:**Clear abrasion and weather resistant extra soft PVC.

**REINFORCEMENT:**Blue PVC helix. SAT-XXX-BLK - Black helix

**TUBE:**Smooth clear extra soft PVC.

**TEMPERATURE:**-40C to +65C(-40F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
SAT-200	2	2.35	26	35	5.00	100'	0.49	----
SAT-300	3	3.42	24	30	7.50	100'	0.81	----
SAT-400	4	4.50	22	25	10.00	100'	1.52	----
SAT-600	6	6.58	22	21	15.00	100'	2.72	----

Standard Length: 100'

**Safety Info:** Suction and Pressure ratings are based on a temperature of 20C (68F), reduce by 50% at maximum working temperature Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating then the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**SATURN WHITE PVC WATER SUCTION AND DISCHARGE HOSE**

**APPLICATION:**An economical, flexible hose for construction pumps, septic tank & marine pump-out service. Resistant to some chemicals, mild acids & alkalis. Consult us for recommendations.

**COVER:**Clear abrasion and weather resistant PVC.

**REINFORCEMENT:**White PVC helix.

**TUBE:**Smooth clear PVC.

**TEMPERATURE:**-20C to +65C(-5F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
SATW-100	1	1.18	29	85	3.00	100'	0.19	----
SATW-125	1-1/4	1.47	29	80	3.00	100'	0.29	----
SATW-150	1-1/2	1.72	29	70	4.00	100'	0.35	----
SATW-200	2	2.29	29	65	5.00	100'	0.57	----
SATW-300	3	3.35	29	55	8.00	100'	1.03	----
SATW-400	4	4.45	29	50	10.00	100'	1.78	----
SATW-600	6	6.56	29	40	24.00	100'	3.70	----

Standard Length: 100'

**Safety Info:** Suction and Pressure ratings are based on a temperature of 20C (68F), reduce by 50% at maximum working temperature Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating then the hose. Never exceed the working pressure of the lowest rated component in the assembly.

# WATER SUCTION & DISCHARGE HOSE

## HOSE ACCESSORIES

### SUPERFLEX PVC SUCTION



APPLICATION: Specially designed for use in the installation of pool, spa and hot tubs. Can also be used in a variety of water transfer applications where flexible lines are needed to replace rigid piping.

COVER: Soft white PVC

REINFORCEMENT: White PVC helix

TUBE: Smooth white PVC

TEMPERATURE: -20C to +65C (-5F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
SUPER-200	2	2.39	29	70	7.00	100'	0.75	----

Standard Length: 100'

Product Info: Our warranty does not cover damage caused by rodents or any insect. Not for underground use in areas infested by termites.

Safety Info: Suction and Pressure ratings are based on a temperature of 20C (68F), reduce by 50% at maximum working temperature

Recommended Couplings: SCH40

### RUBBER WATER S&D



APPLICATION: A heavy duty wire reinforced rubber suction hose for construction, quarries and general use.

COVER: Black smooth abrasion and weather resistant synthetic rubber. REINFORCEMENT: High tensile wire helix embedded between layers of textile cords. TUBE: Smooth black synthetic rubber.

TEMPERATURE: -30C to +80C (-22F to +180F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
WSB-125	1-1/4	1.65	29	150	4.00	100	0.77	----
*WSB-150	1-1/2	1.93	29	150	4.00	100	1.00	----
*WSB-200	2	2.48	29	150	5.00	100	1.37	----
*WSB-300	3	3.50	29	150	10.00	100	2.23	----
*WSB-400	4	4.64	29	150	14.00	100	3.73	----
*WSB-600	6	6.66	29	150	30.00	100	5.99	----

Standard Length: 3/4" to 4" - 50'/100' -- 5" and 6" - 20'/100' -- 8" - 20'/60' -- 10" - 40' -- 12" - 20'

Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. Cam and groove, combination nipple. Crimplok cam and groove, Crimplok combination nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.

**WATER SUCTION & DISCHARGE HOSE**

## HOSE ACCESSORIES

## TEXTILE REINFORCED S&amp;D



APPLICATION:GOOD FOR BOTH SUCTION AND DISCHARGE APPLICATIONS, THIS HEAVY DUTY HOSE CAN BE USED FOR RENTAL/CONSTRUCTION PUMPING AS WELL AS FISH SUCTION HOSE.

COVER:Clear abrasion and weather resistant PVC. REINFORCEMENT:Orange PVC helix with high tensile synthetic textile yarn. TUBE:Smooth clear PVC.

TEMPERATURE:-23C to +65C(-10F to +150F)

PART #	NOM. ID"	NOM. OD"	VACUUM	PSI	BEND RADIUS"	STD PACK	WEIGHT#	
*RSPVC -200	2	2.59	29	110	4.00	100	0.65	----
*RSPVC-300	3	3.71	29	100	6.00	100	1.12	----
*RSPVC-400	4	4.78	29	80	7.00	100	1.74	----
*RSPVC-600	6	7.17	28	70	10.50	100	3.87	----

Standard Length: 100'

Safety Info: Reduce pressures by 50% at maximum working temperature

Recommended Couplings: Cam and groove, combination nipple or short shank. Crimplok cam and groove, Crimplok nipple. All coupling recommendations are to be used as guidelines and are derived from past user preference. In some cases the preferred coupling is of a lesser pressure rating than the hose. Never exceed the working pressure of the lowest rated component in the assembly.



# CRIMPLOK

## SELF LOCKING CAM & GROOVE



STAINLESS STEEL &  
ALUMINUM

## UNIVERSAL FITTINGS

## CRIMPLOCK KING NIPPLES



## CRIMPLOK FERRULES - PLATED STEEL - STAINLESS STEEL ALUMINUM

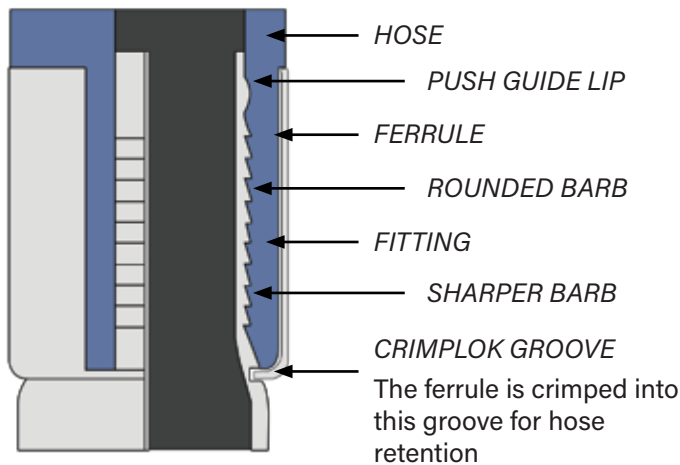


**SOLID**

**DEPENDABLE**

**SAFE**

### FEATURES AND BENEFITS



**Crimplok is the best way to ensure a perfect hose connection every time!**

- All fittings have a Crimplok groove for the ferrule end the Lok into for a strong permanent seal.
- Serrations on the couplings and fittings are not as sharp at the top, but become sharper towards the Crimplok groove.
- The length of the barb and sleeve/ ferrule are matched for a safer, cleaner connection.
- Crimplok connections do not have sharp clamp buckles or edges
- Interchangeable with most market systems

# CRIMPLOK

## HOSE ACCESSORIES

### ALUMINUM SELF LOCKING CAM & GROOVE

- Automatic Self-Locking Arms Prevent Accidental Disconnection
- Machined multi-serrated shank with interlocking groove
- Aluminum with Brass Self Locking Arms
- 316 Stainless with Investment Cast Self-Locking Arms
- Available in sizes 2" through 6"
- 2" @250 psi 3" & 4" @150 psi 6" @75 psi
- 6" @150 psi 4 arms
- Configurations
  - Dust Cap
  - Part B
  - Part C
  - Part D

Sample item code	Description
CDCSL-XXX-A1	X" DUST CAP ALUMINUM CRIMPLOK SELF LOCKING
CGBSL-XXX-A1	X" PART B ALUMINUM CRIMPLOK SELF LOCKING
CGCSL-XXXCR-A1	X" PART C ALUMINUM CRIMPLOK SELF LOCKING
CGDSL-XXX-A1	X" PART D ALUMINUM PRIMPLOK SELF LOCKING

Designed for use with Buchanan Crimp Sleeves and Interlocking Ferrules

#### FEMALE COUPLER X MALE NPT TYPE B



CGBSL

PART#	SIZE	
CGBSL-200-A1	2"	----
CGBSL-300-A1	3"	----
CGBSL-400-A1	4"	----
CGBSL-600-A1	6"	----

#### FEMALE COUPLER X FEMALE NPT TYPE D



CGDSL

PART#	SIZE	
CGDSL-200-A1	2"	----
CGDSL-300-A1	3"	----
CGDSL-400-A1	4"	----
CGDSL-600-A1	6"	----

#### FEMALE COUPLER X HOSE SHANK TYPE C



CGCSL

PART#	SIZE	
CGCSL-200CR-A1	2"	----
CGCSL-300CR-A1	3"	----
CGCSL-400CR-A1	4"	----
CGCSL-600CR-A1	6"	----
CGCSL-600CR-A4	6" w/4 arms	----

#### DUST CAP TYPE DC



CDCSL

PART#	SIZE	
CDCSL-200-A1	2"	----
CDCSL-300-A1	3"	----
CDCSL-400-A1	4"	----
CDCSL-600-A1	6"	----

**STAINLESS STEEL SELF LOCKING CAM & GROOVE**

- Automatic Self-Locking Arms Prevent Accidental Disconnection
- Machined multi-serrated shank with interlocking groove
- Aluminum with Brass Self Locking Arms
- 316 Stainless with Investment Cast Self-Locking Arms
- Available in sizes 2" through 6"
- 2" @250 psi 3" & 4" @150 psi 6" @75 psi
- 6" @150 psi 4 arms
- Configurations
  - Dust Cap
  - Part B
  - Part C
  - Part D

Sample item code	Description
CDCL-XXX-SS1	X" DUST CAP STAINLESS CRIMPLOK 316 SELF LOCKING
CGBSL-XXX-SS1	X" PART B STAINLESS CRIMPLOK 316 SELF LOCKING
CGCSL-XXXCR-SS1	X" PART C STAINLESS 316 CRIMPLOK SELF LOCKING
CGDSL-XXX-SS1	X" PART D STAINLESS CRIMPLOK 316 SELF LOCKING

**Designed for use with Buchanan Crimp Sleeves and Interlocking Ferrules**

FEMALE COUPLER X MALE NPT  
TYPE B



CGBSL

PART#	SIZE	
CGBSL-200-SS1	2"	----
CGBSL-300-SS1	3"	----
CGBSL-400-SS1	4"	----
CGBSL-600-SS1	6"	----

FEMALE COUPLER X FEMALE NPT  
TYPE D



CGDSL

PART#	SIZE	
CGDSL-200-SS1	2"	----
CGDSL-300-SS1	3"	----
CGDSL-400-SS1	4"	----
CGDSL-600-SS1	5"	----

FEMALE COUPLER X HOSE SHANK  
TYPE C



CGCSL

PART#	SIZE	
CGCSL-200CR-SS1	2"	----
CGCSL-300CR-SS1	3"	----
CGCSL-400CR-SS1	4"	----
CGCSL-600CR-SS1	6"	----

DUST CAP  
TYPE DC



CDCSL

PART#	SIZE	
CDCSL-200-SS1	2"	----
CDCSL-300-SS1	3"	----
CDCSL-400-SS1	4"	----
CDCSL-600-SS1	5"	----

**CRIMPLOK**

## HOSE ACCESSORIES

**CRIMPLOK ALUMINUM CAM & GROOVE COUPLINGS**

TYPE C



PART#	SIZE	
CGC-150CR-A1	1-1/2"	----
CGC-200CR-A1	2"	----
CGC-250CR-A1	2-1/2"	----
CGC-300CR-A1	3"	----
CGC-400CR-A1	4"	----
CGC-600CR-A1	6"	----
CGC-800CS-A1	8"	----

TYPE E



PART#	SIZE	
CGE-150CR-A1	1-1/2"	----
CGE-200CR-A1	2"	----
CGE-250CR-A1	2-1/2"	----
CGE-300CR-A1	3"	----
CGE-400CR-A1	4"	----
CGE-600CR-A1	6"	----
CGE-800CS-A1	8"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXXX-SP

**CRIMPLOK STAINLESS CAM & GROOVE COUPLINGS**

TYPE C



TYPE E



TYPE C

PART#	SIZE	
CGC-100CR-SS1	1"	----
CGC-150CR-SS1	1-1/2"	----
CGC-200CR-SS1	2"	----
CGC-300CR-SS1	3"	----
CGC-400CR-SS1	4"	----

TYPE E

PART#	SIZE	
CGE-100CR-SS1	1"	----
CGE-150CR-SS1	1-1/2"	----
CGE-200CR-SS1	2"	----
CGE-300CR-SS1	3"	----
CGE-400CR-SS1	4"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXXX-SS304

**CRIMPLOK CRIMP UNIVERSAL FITTINGS**

PART#	SIZE	MAX OPERATING PSI 70F	
FHE-075-MP	3/4	150	----
HE-050CF-SP	1/2	150	----
HE-075CF-SP	3/4	150	----
HE-075CR-SP	3/4	150	----
HE-100CF-SP	1	150	----
HE-100CR-SP	1	150	----
HE-101CF-SP	1	150	----

**HIGH PRESSURE FEMALE STEM**

PART#	SIZE	
GJS-050CR-SP	1/2	----
GJS-075CR-SP	3/4	----
GJS-100CR-SP	1	----
GJS-125CR-SP	1-1/4	----
GJS-150CR-SP	1-1/2	----
GJS-200CR-SP	2	----
GJS-250CR-SP	2-1/2	----
GJS-300CR-SP	3	----
GJS-400CR-SP	4	----

**HIGH PRESSURE FEMALE STEM**

PART#	SIZE	
GJM-050CR-SP	1/2	----
GJM-075CR-SP	3/4	----
GJM-100CR-SP	1	----
GJM-125CR-SP	1-1/4	----
GJM-150CR-SP	1-1/2	----
GJM-200CR-SP	2	----
GJM-250CR-SP	2-1/2	----
GJM-300CR-SP	3	----
GJM-400CR-SP	4	----

# CRIMPLOK KING NIPPLES

HOSE ACCESSORIES

## CRIMPLOK CRIMP COMBINATION NIPPLES PLATED STEEL



PART#	SIZE	
*CNT-100CR-SP	1"	----
*CNT-125CR-SP	1-1/4"	----
*CNT-150CR-SP	1-1/2"	----
*CNT-200CR-SP	2"	----
*CNT-250CR-SP	2-1/2"	----
*CNT-300CR-SP	3"	----
*CNT-400CR-SP	4"	----
*CNT-600CR-SP	6"	----

**Project Information:** For use with CRIMPLOK Ferrules CF-XXXXX-SP

## CRIMPLOK CRIMP COMBINATION NIPPLES STAINLESS



PART#	SIZE	
*CNT-100CR-SS316	1"	----
CNT-125CR-SS316	1-1/4"	----
*CNT-150CR-SS316	1-1/2"	----
*CNT-200CR-SS316	2"	----
*CNT-250CR-SS316	2-1/2"	----
*CNT-300CR-SS316	3"	----
*CNT-400CR-SS316	4"	----
*CNT-600CR-SS316	6"	----

**Project Information:** For use with CRIMPLOK Ferrules CF-XXXXX-SS304

## CRIMPLOK COMBINATION NIPPLE PLATED LONG NPT



PART#	SIZE	
*CNL-200CR-SP	2"	----
*CNL-250CR-SP	2-1/2"	----
*CNL-300CR-SP	3"	----
*CNL-400CR-SP	4"	----

**Project Information:** For use with CRIMPLOK Long Ferrules CF-XXXXXL-SP

## CRIMPLOK HD COMBINATION NIPPLE PLATED



PART#	SIZE	
*CNT-400CS-SP	4"	----
*CNT-600CS-SP	6"	----
*CNT-800CS-SP	8"	----

**Project Information:** For use with CRIMPLOK Sleeves CSL-XXXXX-SP

## CRIMPLOK HD COMBINATION NIPPLE UNPLATED



PART#	SIZE	
*CNT-400CS-S	4"	----
*CNT-600CS-S	6"	----
CNT-800CS-S	8"	----

**Project Information:** For use with CRIMPLOK Sleeves CSL-XXXXX-SP

## CRIMPLOK HD COMBINATION NIPPLE VICTAULIC PLATED



PART#	SIZE	
*CNG-400CS-SP	4"	----
*CNG-600CS-SP	6"	----
*CNG-800CS-SP	8"	----

**Project Information:** For use with CRIMPLOK Sleeves CSL-XXXXX-SP

## CRIMPLOK HD COMBINATION NIPPLE VICTAULIC UNPLATED



PART#	SIZE	
*CNG-400CS-S	4"	----
*CNG-600CS-S	6"	----
*CNG-800CS-S	8"	----

**Project Information:** For use with CRIMPLOK Sleeves CSL-XXXXX-SP

**CRIMPLOK KING NIPPLES**

HOSE ACCESSORIES

**CRIMPLOK CRIMP VICTAULIC  
COMBINATION NIPPLES PLATED STEEL**

PART#	SIZE	
*CNG-200CR-SP	2"	----
*CNG-300CR-SP	3"	----
*CNG-400CR-SP	4"	----
*CNG-600CR-SP	6"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SP

**CRIMPLOK CRIMP VICTAULIC  
COMBINATION NIPPLES STAINLESS**

PART#	SIZE	
CNG-200CR-SS316	2"	----
CNG-250CR-SS316	2-1/2"	----
CNG-300CR-SS316	3"	----
CNG-400CR-SS316	4"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SS304

**CRIMPLOK FIXED FLANGE NIPPLE  
STEEL 125 - 150#**

PART#	SIZE	
*CNFL-200CR-S	2"	----
*CNFL-300CR-S	3"	----
*CNFL-400CR-S	4"	----
*CNFL-600CR-S	6"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SP  
Stainless Steel available - add S316 to part #

**CRIMPLOK CRIMP TURNBACK  
COMBINATION NIPPLES STEEL**

PART#	SIZE	
*CNTB-200CR-S	2"	----
*CNTB-300CR-S	3"	----
*CNTB-400CR-S	4"	----
*CNTB-600CR-S	6"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SP

**CRIMPLOK CRIMP TURN BACK  
NIPPLES STAINLESS**

PART#	SIZE	
*CNTB-200CR-SS316	2"	----
*CNTB-300CR-SS316	3"	----
*CNTB-400CR-SS316	4"	----
*CNTB-600CR-SS316	6"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SS304

**CRIMPLOK CRIMP SQUARE CUT  
COMBINATION NIPPLES UNPLATED**

PART#	SIZE	
*CNSC-300CR-SP	3"	----
*CNSC-400CR-SP	4"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SP

**CRIMPLOK FIXED FLANGE NIPPLE  
STAINLESS STEEL 125 - 150#**

PART#	SIZE	
*CNFL-200CR-SS316	2"	----
*CNFL-300CR-SS316	3"	----
*CNFL-400CR-SS316	4"	----
*CNFL-600CR-SS316	6"	----

**Project Information:** For use with  
CRIMPLOK Ferrules CF-XXXX-SP



# CRIMPLOK FERRULES PLATED

## HOSE ACCESSORIES



### CRIMPLOK FERRULES STEEL PLATED FOR 3/4" HOSE - LD FOR UNIVERSAL

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CFT-08106T-SP	3/4	FLPS075112	1.1875"	2.14"	0.04	----
CFT-08107T-SP	3/4	FLPS075114	1.2188"	2.14"	0.04	----
CFT-08108T-SP	3/4	FLPS075116	1.2500"	2.14"	0.04	----
CFT-08109T-SP	3/4	FLPS075118	1.2812	2.14"	0.04	----

**Project Information:** For use with CRIMPLOK Universal Crimp fittings (HE-XXXCR-SP). Ferrule thickness is .040"

### CRIMPLOK FERRULES STEEL PLATED FOR 3/4" HOSE - HD FOR UNIVERSAL

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-05101S-SP	3/4	FPS050104S	1.0625"	1.41"	0.06	----

**Project Information:** For use with CRIMPLOK crimp ground joints (GJM/GJS-XXXCR-SP) I.D Tolerance = +/-0.012

### CRIMPLOK FERRULES STEEL PLATED FOR 3/4" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-08105-SP	3/4	FPS075120	1.3125"	2.14"	0.06	----

**Project Information:** For use with CRIMPLOK Universal Crimp fittings (HE-XXXCR-SP). Ferrule thickness is .040"

### CRIMPLOK FERRULES STEEL PLATED FOR 1" HOSE - LD FOR UNIVERSAL

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CFT-10114T-SP	1	FLPS100128	1.4375"	2.29"	0.04	----
CFT-10115T-SP	1	FLPS100130	1.4687"	2.29"	0.04	----
CFT-10117T-SP	1	FLPS100134	1.5000"	2.29"	0.04	----
CFT-10118T-SP	1	FLPS100136	1.5312"	2.29"	0.04	----

**Project Information:** For use with CRIMPLOK Universal Crimp fittings (HE-XXXCR-SP). Ferrule thickness is .040"

### CRIMPLOK FERRULES STEEL PLATED FOR 1" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-10109-SP	1	FPS100136	1.5625"	2.29"	0.06	----
CF-10110-SP	1	FPS100140	1.6250"	2.29"	0.06	----
CF-10111-SP	1	FPS100144	1.6875"	2.29"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGC/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STEEL PLATED FOR 1-1/4" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-13113-SP	1-1/4	FPS125152	1.8125"	2.32"	0.06	----
CF-13114-SP	1-1/4	FPS125156	1.8750"	2.32"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGC/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES PLATED**

## HOSE ACCESSORIES

**CRIMPLOK FERRULES STEEL PLATED FOR 1-1/2" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-15115-SP	1-1/2	FPS150160	1.9375"	2.36"	0.06	----
CF-15201-SP	1-1/2	FPS150204	2.0625"	2.36"	0.06	----
CF-15202-SP	1-1/2	FPS150208	2.1250"	2.36"	0.06	----
CF-15203-SP	1-1/2	FPS150212	2.1875"	2.36"	0.06	----
CF-15205-SP	1-1/2	FPS150220	2.3125	2.36"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STEEL PLATED FOR 1-1/2" HOSE - LONG**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-15202L-SP	1-1/2	FPS150208L	2.1250"	2.91	0.06	----

**Project Information:** For use with CRIMPLOK ground joint fittings (GJM/GJS-XXXCR-SP) and CRIMPLOK long crimp combination nipples (CNL-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STEEL PLATED FOR 2" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-20208-SP	2	FPS200232	2.5000"	2.79"	0.06	----
CF-20209-SP	2	FPS200236	2.5625"	2.79"	0.06	----
CF-20210-SP	2	FPS200240	2.6250"	2.79"	0.06	----
CF-20211-SP	2	FPS200244	2.6875"	2.79"	0.06	----
CF-20212-SP	2	FPS200248	2.7500"	2.79"	0.06	----
CF-20213-SP	2	FPS200252	2.8125"	2.79"	0.06	----
CF-20214-SP	2	FPS200256	2.8750"	2.79"	0.06	----
CF-20215-SP	2	FPS200260	2.9375"	2.79"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STEEL PLATED FOR 2" HOSE - LONG**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-20209L-SP	2	FPS200236L	2.5625"	3.41"	0.06	----
CF-20211L-SP	2	FPS200244L	2.6875"	3.41"	0.06	----
CF-20212L-SP	2	FPS200248L	2.7500"	3.41"	0.06	----
CF-20213L-SP	2	FPS200252L	2.8125"	3.41"	0.06	----

**Project Information:** For use with CRIMPLOK ground joint fittings (GJM/GJS-XXXCR-SP) and CRIMPLOK long crimp combination nipples (CNL-XXXCR-SP) I.D. Tolerance = +/-0.012"

# CRIMPLOK FERRULES PLATED

## HOSE ACCESSORIES

### CRIMPLOK FERRULES STEEL PLATED FOR 2-1/2" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-25303-SP	2-1/2	FPS250312	3.1875"	3.11"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STEEL PLATED FOR 2-1/2" HOSE - LONG

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-25303L-SP	2-1/2	FPS250312L	3.1875"	3.88"	0.06	----

**Project Information:** For use with CRIMPLOK ground joint fittings (GJM/GJS-XXXCR-SP) and CRIMPLOK long crimp combination nipples (CNL-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STEEL PLATED FOR 3" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-30309-SP	3	FPS300336	3.5625"	3.94"	0.09	----
CF-30310-SP	3	FPS300340	3.6250"	3.94"	0.09	----
CF-30311-SP	3	FPS300344	3.6875"	3.94"	0.09	----
CF-30312-SP	3	FPS300348	3.7500"	3.94"	0.09	----
CF-30313-SP	3	FPS300352	3.8125"	3.94"	0.09	----
CF-30314-SP	3	FPS300356	3.8750"	3.94"	0.09	----
CF-30315-SP	3	FPS300360	3.9375"	3.94"	0.09	----
CF-30400-SP	3	FPS300400	4.000"	3.94"	0.09	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STEEL PLATED FOR 3" HOSE - LONG

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-30310L-SP	3	FPS300340L	3.6250"	4.36"	0.09	----
CF-30311L-SP	3	FPS300344L	3.6875"	4.36"	0.09	----
CF-30312L-SP	3	FPS300348L	3.7500"	4.36"	0.09	----
CF-30313L-SP	3	FPS300352L	3.8125"	4.36"	0.09	----
CF-30314L-SP	3	FPS300356L	3.8750"	4.36"	0.09	----
CF-30315L-SP	3	FPS300360L	3.9375"	4.36"	0.09	----
CF-30400L-SP	3	FPS300400L	4.000"	4.36"	0.09	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES PLATED**

HOSE ACCESSORIES

**CRIMPLOK FERRULES STEEL PLATED FOR 4" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-40409-SP	4	FPS400436	4.5625"	4.19"	0.09	----
CF-40410-SP	4	FPS400440	4.6250"	4.19"	0.09	----
CF-40411-SP	4	FPS400444	4.6875"	4.19"	0.09	----
CF-40412-SP	4	FPS400448	4.7500"	4.19"	0.09	----
CF-40413-SP	4	FPS400452	4.8125"	4.19"	0.09	----
CF-40414-SP	4	FPS400456	4.8750"	4.19"	0.09	----
CF-40415-SP	4	FPS400460	4.9375"	4.19"	0.09	----
CF-40500-SP	4	FPS400500	5.000"	4.19"	0.09	----
CF-40501-SP	4	FPS400504	5.0625"	4.19"	0.09	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STEEL PLATED FOR 4" HOSE - LONG**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-40410L-SP	4	FPS400440L	4.6250"	5.20"	0.09	----
CF-40411L-SP	4	FPS400444L	4.6875"	5.20"	0.09	----
CF-40412L-SP	4	FPS400448L	4.7500"	5.20"	0.09	----
CF-40413L-SP	4	FPS400452L	4.8125"	5.20"	0.09	----
CF-40414L-SP	4	FPS400456L	4.8750"	5.20"	0.09	----
CF-40415L-SP	4	FPS400460L	4.9375"	5.20"	0.09	----
CF-40500L-SP	4	FPS400500L	5.000"	5.20"	0.09	----
CF-40501L-SP	4	FPS400504L	5.0625"	5.20"	0.09	----

**Project Information:** For use with CRIMPLOK ground joint fittings (GJM/GJS-XXXCR-SP) and CRIMPLOK long crimp combination nipples (CNL-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STEEL PLATED FOR 6" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-60610-SP	6	FPS600640	6.6250"	5.67"	0.12	----
CF-60612-SP	6	FPS600648	6.7500"	5.67"	0.12	----
CF-60614-SP	6	FPS600656	6.8750"	5.67"	0.12	----
CF-60702-SP	6	FPS600708	7.1250"	5.67"	0.12	----
CF-60704-SP	6	FPS600716	7.2500"	5.67"	0.12	----

**Project Information:** For use with CRIMPLOK ground joint fittings (GJM/GJS-XXXCR-SP) and CRIMPLOK long crimp combination nipples (CNL-XXXCR-SP) I.D. Tolerance = +/-0.012"

# CRIMPLOK FERRULES STAINLESS

## HOSE ACCESSORIES



### CRIMPLOK FERRULES STAINLESS 304 FOR 1/2" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-05101-SS304	1/2	FSS050104	1.0625"	2.14"	0.06	----
CF-05102-SS304	1/2	FSS050108	1.1250"	2.14"	0.06	----

**Project Information:** For use with CRIMPLOK crimp ground joints (GJM/GJS-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STAINLESS 304 FOR 3/4" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-08105-SS304	3/4	FSS075120	1.3125"	2.14"	0.06	----
CF-08106-SS304	3/4	FSS075124	1.3750"	2.14"	0.06	----
CF-08108-SS304	3/4	FSS075132	1.5000"	2.14"	0.06	----

**Project Information:** For use with CRIMPLOK crimp ground joints (GJM/GJS-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STAINLESS 304 FOR 3/4" HOSE - LD FOR UNIVERSAL

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CFT-08104T-SS304	3/4	FLSS075108	1.1250"	2.14"	0.04	----
CFT-08106T-SS304	3/4	FLSS075112	1.1875"	2.14"	0.04	----
CFT-08107T-SS304	3/4	FLSS075114	1.2188"	2.14"	0.04	----
CFT-08108T-SS304	3/4	FLSS075116	1.2500"	2.14"	0.04	----
CFT-08109T-SS304	3/4	FLSS075118	1.2812"	2.14"	0.04	----

**Project Information:** For use with CRIMPLOK Universal crimp fittings (HE-XXXCR-SP) Ferrule thickness is .040"

### CRIMPLOK FERRULES STAINLESS 304 FOR 1" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-10108-SS304	1	FSS100132	1.5000"	2.29"	0.06	----
CF-10109-SS304	1	FSS100136	1.5625"	2.29"	0.06	----
CF-10110-SS304	1	FSS100140	1.6250"	2.29"	0.06	----
CF-10111-SS304	1	FSS100144	1.6875"	2.29"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

### CRIMPLOK FERRULES STAINLESS 304 FOR 1" HOSE - LD FOR UNIVERSAL

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CFT-10117T-SS304	1	FLSS100134	1.5312"	2.29"	0.04	----

**Project Information:** For use with CRIMPLOK Universal crimp fittings (HE-XXXCR-SP) Ferrule thickness is .040"

**CRIMPLOK FERRULES STAINLESS**

## HOSE ACCESSORIES

**CRIMPLOK FERRULES STAINLESS 304 FOR 1-1/4" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-13114-SS304	1-1/4	FSS125156	1.8750"	2.32"	0.06	----
CF-13115-SS304	1-1/4	FSS125160	1.9375"	2.32"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SP) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STAINLESS 304 FOR 1-1/2" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-15115-SS304	1-1/2	FSS150160	1.9375"	2.36"	0.06	----
CF-15200-SS304	1-1/2	FSS150200	2.000"	2.36"	0.06	----
CF-15201-SS304	1-1/2	FSS150204	2.0625"	2.36"	0.06	----
CF-15202-SS304	1-1/2	FSS150208	2.1250"	2.36"	0.06	----
CF-15203-SS304	1-1/2	FSS150212	2.1875"	2.36"	0.06	----
CF-15204-SS304	1-1/2	FSS150216	2.2500"	2.36"	0.06	----
CF-15205-SS304	1-1/2	FSS150220	2.3125"	2.36"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SS316) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STAINLESS 304 FOR 2" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-20208-SS304	2	FSS200232	2.5000"	2.79"	0.06	----
CF-20209-SS304	2	FSS200236	2.5625"	2.79"	0.06	----
CF-20210-SS304	2	FSS200240	2.6250"	2.79"	0.06	----
CF-20211-SS304	2	FSS200244	2.6875"	2.79"	0.06	----
CF-20212-SS304	2	FSS200248	2.7500"	2.79"	0.06	----
CF-20213-SS304	2	FSS200252	2.8125"	2.79"	0.06	----
CF-20214-SS304	2	FSS200256	2.8750"	2.79"	0.06	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SS316) I.D. Tolerance = +/-0.012"

**CRIMPLOK FERRULES STAINLESS 304 FOR 3" HOSE**

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-30309-SS304	3	FSS300336	3.5625"	3.94"	0.10	----
CF-30310-SS304	3	FSS300340	3.6250"	3.94"	0.10	----
CF-30311-SS304	3	FSS300344	3.6875"	3.94"	0.10	----
CF-30312-SS304	3	FSS300348	3.7500"	3.94"	0.10	----
CF-30313-SS304	3	FSS300352	3.8125"	3.94"	0.10	----
CF-30314-SS304	3	FSS300356	3.8750"	3.94"	0.10	----
CF-30315-SS304	3	FSS300360	3.9375"	3.94"	0.10	----
CF-30400-SS304	3	FSS300400	4.000"	3.94"	0.10	----

**Project Information:** For use with CRIMPLOK crimp cam and groove fitting (CGE/CGE-XXXCR-A1) and CRIMPLOK crimp combination nipples (CNT-XXXCR-SS316) I.D. Tolerance = +/-0.012"



# CRIMPLOK SLEEVES ALUMINUM

## HOSE ACCESSORIES

### CRIMPLOK FERRULES STAINLESS 304 FOR 4" HOSE

PART#	SIZE	CAMPBELL PART	FERRULE ID"	FERRULE LENGTH"	WALL THICKNESS	
CF-40410-SS304	4	FSS400440	4.6250"	4.19"	0.10	----
CF-40411-SS304	4	FSS400444	4.6875"	4.19"	0.10	----
CF-40412-SS304	4	FSS400448	4.7500"	4.19"	0.10	----
CF-40413-SS304	4	FSS400452	4.8125"	4.19"	0.10	----
CF-40414-SS304	4	FSS400456	4.8750"	4.19"	0.10	----
CF-40415-SS304	4	FSS400500	5.000"	4.19"	0.10	----

**Project Information:** For use with crimp cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"



### CRIMPLOK SLEEVES ALUMINUM FOR 2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-20209-A	2	SAL200236	2.5625"	2.79"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES ALUMINUM FOR 2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-20210-A	2	SAL200240	2.6250"	2.79"	0.12	----
CSL-20211-A	2	SAL200244	2.6875"	2.79"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES ALUMINUM FOR 3" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-30310-A	3	SAL300340	3.6250"	3.94"	0.12	----
CSL-30313-A	3	SAL300352	3.8125"	3.94"	0.12	----
CSL-30314-A	3	SAL300356	3.8750"	3.94"	0.12	----
CSL-30315-A	3	SAL300360	3.9375"	3.94"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES ALUMINUM FOR 4" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-40411-A	4	SAL400444	4.6875"	4.19"	0.12	----
CSL-40412-A	4	SAL400448	4.7500"	4.19"	0.12	----
CSL-40413-A	4	SAL400452	4.8125"	4.19"	0.12	----
CSL-40414-A	4	SAL400456	4.8750"	4.19"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES PLATED**

## HOSE ACCESSORIES

**CRIMPLOK SLEEVES STEEL PLATED FOR 2" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-08106-SP	3/4	SPS075124	1.3750"	2.14"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 3/4" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-05100S-SP	1/2	SPS050100S	1.0000"	0.91"	0.06	----
CSL-08102S-SP	3/4	SPS075108S	1.1250"	1.10"	0.06	----
CSL-08105S-SP	3/4	SPS075120S	1.3125"	1.10"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 1" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-10107-SP	1	SPS100128	1.4375"	2.29"	0.06	----
CSL-10108-SP	1	SPS100132	1.5000"	2.29"	0.06	----
CSL-10109-SP	1	SPS100136	1.5625"	2.29"	0.06	----
CSL-10110-SP	1	SPS100140	1.6250"	2.29"	0.06	----
CSL-10111-SP	1	SPS100144	1.6875"	2.29"	0.06	----
CSL-10112-SP	1	SPS100148	1.7500"	2.29"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 1" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-10107S-SP	1	SPS100128S	1.4375"	2.26"	0.06	----
CSL-10108S-SP	1	SPS100132S	1.5000"	2.26"	0.06	----
CSL-10109S-SP	1	SPS100136S	1.5625"	2.26"	0.06	----
CSL-10111S-SP	1	SPS100144S	1.6875"	2.26"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 1-1/4" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-13113S-SP	1-1/4	SPS125152S	1.8125"	1.26"	0.06	----
CSL-13114S-SP	1-1/4	SPS125156S	1.8750"	1.26"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

# CRIMPLOK SLEEVES PLATED

## HOSE ACCESSORIES

### CRIMPLOK SLEEVES STEEL PLATED FOR 1-1/2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-15112-SP	1-1/2	SPS150148	1.7500"	2.36"	0.06	----
CSL-15115-SP	1-1/2	SPS150160	1.9375"	2.36"	0.06	----
CSL-15200-SP	1-1/2	SPS150200	2.0000"	2.36"	0.06	----
CSL-15201-SP	1-1/2	SPS150204	2.0625"	2.36"	0.06	----
CSL-15202-SP	1-1/2	SPS150208	2.1250"	2.36"	0.06	----
CSL-15203-SP	1-1/2	SPS150212	2.1875"	2.36"	0.06	----
CSL-15204-SP	1-1/2	SPS150216	2.2500"	2.36"	0.06	----
CSL-15205-SP	1-1/2	SPS150220	2.3125"	2.36"	0.06	----
CSL-15206-SP	1-1/2	SPS150224	2.3750"	2.36"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 1-1/2" HOSE - SHORT

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-15202S-SP	1-1/2	SPS150208S	2.1250"	1.46"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-20204-SP	2	SPS200216	2.2500"	2.79"	0.06	----
CSL-20206-SP	2	SPS200224	2.3750"	2.79"	0.06	----
CSL-20207-SP	2	SPS200228	2.4375"	2.79"	0.06	----
CSL-20208-SP	2	SPS200232	2.5000"	2.79"	0.06	----
CSL-20209-SP	2	SPS200236	2.5625"	2.79"	0.06	----
CSL-20210-SP	2	SPS200240	2.6250"	2.79"	0.06	----
CSL-20211-SP	2	SPS200244	2.6875"	2.79"	0.06	----
CSL-20212-SP	2	SPS200248	2.7500"	2.79"	0.06	----
CSL-20213-SP	2	SPS200252	2.8125"	2.79"	0.06	----
CSL-20214-SP	2	SPS200256	2.8750"	2.79"	0.06	----
CSL-20215-SP	2	SPS200260	2.9375"	2.79"	0.06	----
CSL-20300-SP	2	SPS200300	3.0000"	2.79"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 2" HOSE - SHORT

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-20206S-SP	2	SPS200224S	2.3750"	1.81"	0.06	----
CSL-20207S-SP	2	SPS200228S	2.4375"	1.81"	0.06	----
CSL-20209S-SP	2	SPS200236S	2.5625"	1.81"	0.06	----
CSL-20210S-SP	2	SPS200240S	2.6250"	1.81"	0.06	----
CSL-20211S-SP	2	SPS200244S	2.6875"	1.81"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES PLATED**

## HOSE ACCESSORIES

**CRIMPLOK SLEEVES STEEL PLATED FOR 2-1/2" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-25302-SP	2-1/2	SPS250308	3.1250"	3.11"	0.06	----
CSL-25306-SP	2-1/2	SPS250324	3.3750"	3.11"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 3" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-30304-SP	3	SPS300316	3.2500"	3.94"	0.09	----
CSL-30306-SP	3	SPS300324	3.3750"	3.94"	0.09	----
CSL-30307-SP	3	SPS300328	3.4375"	3.94"	0.09	----
CSL-30308-SP	3	SPS300332	3.5000"	3.94"	0.09	----
CSL-30309-SP	3	SPS300336	3.5625"	3.94"	0.09	----
CSL-30310-SP	3	SPS300340	3.6250"	3.94"	0.09	----
CSL-30311-SP	3	SPS300344	3.6875"	3.94"	0.09	----
CSL-30312-SP	3	SPS300348	3.7500"	3.94"	0.09	----
CSL-30313-SP	3	SPS300352	3.8125"	3.94"	0.09	----
CSL-30314-SP	3	SPS300356	3.8750"	3.94"	0.09	----
CSL-30400-SP	3	SPS300400	4.000"	3.94"	0.09	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STEEL PLATED FOR 3" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-30306S-SP	3	SPS300324S	3.3750"	2.44"	0.09	----
CSL-30308S-SP	3	SPS300332S	3.5000"	2.44"	0.09	----
CSL-30309S-SP	3	SPS300336S	3.5625"	2.44"	0.09	----
CSL-30310S-SP	3	SPS300340S	3.6250"	2.44"	0.09	----
CSL-30311S-SP	3	SPS300344S	3.6875"	2.44"	0.09	----
CSL-30312S-SP	3	SPS300348S	3.7500"	2.44"	0.09	----
CSL-30313S-SP	3	SPS300352S	3.8125"	2.44"	0.09	----
CSL-30314S-SP	3	SPS300356S	3.8750"	2.44"	0.09	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

# CRIMPLOK SLEEVES PLATED

## HOSE ACCESSORIES

### CRIMPLOK SLEEVES STEEL PLATED FOR 4" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-40406-SP	4	SPS400424	4.3750"	4.19"	0.09	----
CSL-40408-SP	4	SPS400432	4.5000"	4.19"	0.09	----
CSL-40409-SP	4	SPS400436	4.5625"	4.19"	0.09	----
CSL-40410-SP	4	SPS400440	4.6250"	4.19"	0.09	----
CSL-40411-SP	4	SPS400444	4.6875"	4.19"	0.09	----
CSL-40412-SP	4	SPS400448	4.7500"	4.19"	0.09	----
CSL-40413-SP	4	SPS400452	4.8125"	4.19"	0.09	----
CSL-40414-SP	4	SPS400456	4.8750"	4.19"	0.09	----
CSL-40415-SP	4	SPS400460	4.9375"	4.19"	0.09	----
CSL-40500-SP	4	SPS400500	5.0000"	4.19"	0.09	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 4" HOSE - SHORT

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-40410S-SP	4	SPS400440S	4.6250"	3.31"	0.09	----
CSL-40411S-SP	4	SPS400444S	4.6875"	3.31"	0.09	----
CSL-40412S-SP	4	SPS400448S	4.7500"	3.31"	0.09	----
CSL-40413S-SP	4	SPS400452S	4.8125"	3.31"	0.09	----
CSL-40414S-SP	4	SPS400456S	4.9375"	3.31"	0.09	----
CSL-40500S-SP	4	SPS400500S	5.0000"	3.31"	0.09	----

**Project Information:** For use with regular combination nipples (CNT-XXX-S/SP) and short shank fittings (PL-XXX-AD) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 6" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-60604-SP	6	SPS600616	6.2500"	5.67"	0.12	----
CSL-60606-SP	6	SPS600624	6.3750"	5.67"	0.12	----
CSL-60608-SP	6	SPS600632	6.5000"	5.67"	0.12	----
CSL-60610-SP	6	SPS600640	6.6250"	5.67"	0.12	----
CSL-60612-SP	6	SPS600648	6.7500"	5.67"	0.12	----
CSL-60614-SP	6	SPS600656	6.8750"	5.67"	0.12	----
CSL-60700-SP	6	SPS600700	7.0000"	5.67"	0.12	----
CSL-60702-SP	6	SPS600708	7.1250"	5.67"	0.12	----
CSL-60704-SP	6	SPS600716	7.2500"	5.67"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STEEL PLATED FOR 8" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-80812-SP	8	SPS800848	8.7500"	6.50"	0.12	----
CSL-80900-SP	8	SPS800900	9.0000"	6.50"	0.12	----
CSL-80904-SP	8	SPS800916	9.2500"	6.50"	0.12	----
CSL-80908-SP	8	SPS800932	9.5000"	6.50"	0.12	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS**

HOSE ACCESSORIES

**CRIMPLOK SLEEVES STEEL PLATED FOR 10" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-100108-SP	10	SPS100132	10.5000"	7.25"	0.12	
CSL-100114-SP	10	SPS100156	10.8750"	7.25"	0.12	

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXXCR-A1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS 304 FOR 1/2" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-05100S-SS304	1/2	SSS050100S	1.000"	0.91"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-SS/SS316) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS 304 FOR 3/4" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-08104-SS304	3/4	SSS075116	1.2500"	2.14"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1), CRIMPLOK crimp long combination nipples (CNL-XXXCR-SP) and CRIMPLOK (CNT/G-XXXCS-S/P) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS 304 FOR 3/4" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-08104S-SS304	3/4	SSS075116S	1.2500"	1.10"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-SS/SS316) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS 304 FOR 1" HOSE**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-10108-SS304	1	SSS100132	1.5000"	2.29"	0.06	----
CSL-10110-SS304	1	SSS100140	1.6250"	2.29"	0.06	----
CSL-10112-SS304	1	SSS100148	1.7500"	2.29"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1) I.D. Tolerance = +/-0.012"

**CRIMPLOK SLEEVES STAINLESS 304 FOR 1" HOSE - SHORT**

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-10109S-SS304	1	SSS100136S	1.5625"	1.26"	0.06	----
CSL-10110S-SS304	1	SSS100140S	1.6250"	1.26"	0.06	----

**Project Information:** For use with regular combination nipples (CNT-XXX-SS/SS316) I.D. Tolerance = +/-0.012"



# CRIMPLOK SLEEVES STAINLESS

## HOSE ACCESSORIES

### CRIMPLOK SLEEVES STAINLESS 304 FOR 1-1/4" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-13114-SS304	1-1/4	SSS125156	1.8750"	2.32"	0.06	

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STAINLESS 304 FOR 1-1/4" HOSE - SHORT

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-13113S-SS304	1-1/4	SSS125152S	1.8125"	1.26"	0.06	

**Project Information:** For use with regular combination nipples (CNT-XXX-SS/SS316) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STAINLESS 304 FOR 1-1/2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-15201-SS304	1-1/2	SSS150204	2.0625"	2.36"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STAINLESS 304 FOR 2" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-20206-SS304	2	SSS200224	2.3750"	2.79"	0.06	----
CSL-20207-SS304	2	SSS200228	2.4375"	2.79"	0.06	----
CSL-20208-SS304	2	SSS200232	2.5000"	2.79"	0.06	----
CSL-20209-SS304	2	SSS200236	2.5625"	2.79"	0.06	----
CSL-20210-SS304	2	SSS200240	2.6250"	2.79"	0.06	----
CSL-20211-SS304	2	SSS200244	2.6875"	2.79"	0.06	----
CSL-20212-SS304	2	SSS200248	2.7500"	2.79"	0.06	----
CSL-20214-SS304	2	SSS200256	2.8750"	2.79"	0.06	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1) I.D. Tolerance = +/-0.012"

### CRIMPLOK SLEEVES STAINLESS 304 FOR 3" HOSE

PART#	SIZE	CAMPBELL PART	SLEEVE ID"	SLEEVE LENGTH"	WALL THICKNESS	
CSL-30309-SS304	3	SSS300336	3.5625"	3.94"	0.10	----
CSL-30310-SS304	3	SSS300340	3.6250"	3.94"	0.10	----
CSL-30311-SS304	3	SSS300344	3.6875"	3.94"	0.10	----
CSL-30312-SS304	3	SSS300348	3.7500"	3.94"	0.10	----
CSL-30313-SS304	3	SSS300352	3.8125"	3.94"	0.10	----
CSL-30314-SS304	3	SSS300356	3.8750"	3.94"	0.10	----

**Project Information:** For use with cam and groove fitting (CGE/CGE-XXX-SS1) I.D. Tolerance = +/-0.012"

**HOSE CLAMPS**  
HOSE CLAMPS

**HOSE CLAMPS**



	<p><b>WORM GEAR</b></p>		<p><b>QUICK RELEASE</b></p>
	<p><b>MEGA &amp; MAXI T-BOLT CLAMPS</b></p>		<p><b>SPRING LOADED T-BOLT</b></p>
	<p><b>CONSTANT TORQUE &amp; V-BAND</b></p>		<p><b>DOUBLE BOLT CLAMP</b></p>
	<p><b>SPIRAL CLAMP MAXI CLAMP</b></p>		<p><b>MUFFLER &amp; EXHAUST</b></p>
	<p><b>1 EAR, 2 EAR, GAPLESS</b></p>		<p><b>HAMMERLOCK &amp; PUNCH-LOK</b></p>
	<p><b>TOOLS</b></p>		<p><b>NON-PERFORATED OR LINED BAND MARINE CLAMPS</b></p>
	<p><b>RUBBER LINED</b></p>		<p><b>HOSE FERRULES</b></p>

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 300 & 600 WORM GEAR CLAMPS

HOSE CLAMPS

## WORM GEAR CLAMPS

### MINIATURE CLAMPS - 5/16" BAND



Stainless Steel band with Carbon Steel Housing and Screw

#### 300 Series

- 1/4" Hex Slotted Carbon Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- Carbon Steel Housing

**Applications:** For marine, agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

5/16" band, 1/4" screw

PART #	DIA. RANGE		BOX/CASE	
	MIN.	MAX.		
3000004	7/32"	5/8"	200/2400	----
3000005	7/16"	11/16"	200/2400	----
3000006	5/16"	7/8"	200/2400	----
3000008	7/16"	1"	200/1200	----
3000010	1/2"	1-1/16"	200/1200	----
3000012	9/16"	1-1/4"	200/1200	----
3000016	11/16"	1-1/2"	200/1200	----
3000020	7/8"	1-3/4"	200/1200	----

### 1/2" BAND CLAMPS



Stainless Steel band with Carbon Steel Housing and Screw

#### 600 Series

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" Wide 201 Stainless Steel Band
- Carbon Steel Housing

**Applications:** A general purpose clamp for automobiles, plumbing, home and garden general clamping applications, with anti-corrosive properties varying with the number of components made from stainless steel.

- No PSI Rating
- 50lb/ Inch Torque Rating Die Set Function

1/2" band, 5/16" screw

PART #	#	DIA. RANGE		BAG/CASE	
		MIN.	MAX.		
600006	6	3/8"	7/8"	100/600	----
600008	8	7/16"	1"	100/600	----
600010	10	9/16"	1-1/16"	100/600	----
600012	12	9/16"	1-1/4"	100/600	----
600016	16	11/16"	1-1/2"	100/600	----
600020	20	3/4"	1-3/4"	100/300	----
600024	24	1-1/16"	2"	100/300	----
600028	28	1-5/16"	2-1/4"	100/300	----
600032	32	1-9/16"	2-1/2"	100/300	----
600036	36	1-13/16"	2-3/4"	50/200	----
600040	40	2-1/16"	3"	50/200	----
600044	44	2-5/16"	3-1/4"	50/200	----
600048	48	2-9/16"	3-1/2"	50/200	----
600052	52	2-13/16"	3-3/4"	25/100	----
600056	56	3-1/16"	4"	25/100	----
600060	60	3-5/16"	4-1/4"	25/100	----
600064	64	2-1/2"	4-1/2"	25/100	----
600072	72	3"	5"	25/100	----
600080	80	3-1/2"	5-1/2"	10/100	----
600088	88	4"	6"	10/100	----
600096	96	4-1/2"	6-1/2"	10/100	----
600104	104	5"	7"	10/100	----

only I can change my life. No one can do it for me.- Carol Burnett

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**325 & 611 WORM GEAR CLAMPS**

## HOSE CLAMPS

**MINIATURE CLAMPS - 5/16" BAND****325 Series**

- 1/4" Hex Slotted Carbon Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- 301 Stainless Steel Housing

**Applications:** For agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

Stainless Steel band and housing with Carbon Steel Screw

5/16" band, 1/4" screw

PART #	DIA. RANGE		BOX/CASE	
	MIN.	MAX.		
325004	7/32"	5/8"	200/2400	----
325005	7/16"	11/16"	200/2400	----
325006	5/16"	7/8"	200/2400	----
325008	7/16"	1"	200/1200	----
325010	1/2"	1-1/16"	200/1200	----
325012	9/16"	1-1/4"	200/1200	----
325016	11/16"	1-1/2"	200/1200	----
325020	7/8"	1-3/4"	200/1200	----

**1/2" BAND CLAMPS****611 Series**

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" Wide 201 Stainless Steel Band
- 301 Stainless Steel Housing

**Applications:** The perfect clamp for automobiles, plumbing, home and garden general clamping applications, with anti-corrosive properties varying with the number of components made from stainless steel.

- No PSI Rating
- 50lb/ Inch Torque Rating Die Set Function

Stainless Steel band and housing with Carbon Steel Screw

1/2" band, 5/16" screw

PART #	#	DIA. RANGE		BAG/CASE	
		MIN.	MAX.		
611006	6	3/8"	7/8"	100/600	----
611008	8	7/16"	1"	100/600	----
611010	10	9/16"	1-1/16"	100/600	----
611012	12	9/16"	1-1/4"	100/600	----
611016	16	11/16"	1-1/2"	100/600	----
611020	20	3/4"	1-3/4"	100/300	----
611024	24	1-1/16"	2"	100/300	----
611028	28	1-5/16"	2-1/4"	100/300	----
611032	32	1-9/16"	2-1/2"	100/300	----
611036	36	1-13/16"	2-3/4"	50/200	----
611040	40	2-1/16"	3"	50/200	----
611044	44	2-5/16"	3-1/4"	50/200	----
611048	48	2-9/16"	3-1/2"	50/200	----
611052	52	2-13/16"	3-3/4"	25/100	----
611056	56	3-1/16"	4"	25/100	----
611060	60	3-5/16"	4-1/4"	25/100	----
611064	64	2-1/2"	4-1/2"	25/100	----
611072	72	3"	5"	25/100	----
611080	80	3-1/2"	5-1/2"	10/100	----
611088	88	4"	6"	10/100	----
611096	96	4-1/2"	6-1/2"	10/100	----
611104	104	5"	7"	10/100	----
611116	116	5-3/4"	7-3/4"	100/100	----
611128	128	6-1/2"	8-1/2"	100/100	----
611152	152	2"	10"	100/100	----
611164	164	1-3/4"	10-3/4"	100/100	----
611176	176	9-1/4"	11-1/4"	100/100	----
611188	188	2-1/16"	12-1/4"	100/100	----
611200	200	11"	13"	100/100	----
611212	212	11-3/4"	13-3/4"	100/100	----
611224	224	12-1/2"	14-1/2"	100/100	----
611248	248	10-3/4"	16"	100/100	----
611270	270	15-3/8"	17-3/8"	100/100	----
611312	312	18"	20"	100/100	----
611332	332	19-1/8"	21-1/4"	100/100	----
611390	390	22-7/8"	24-7/8"	100/100	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# 350 & 620 WORM GEAR CLAMPS

## HOSE CLAMPS

### MINIATURE CLAMPS - 5/16" BAND



#### 350 Series

- 1/4" Hex Slotted 410 Stainless Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- 301 stainless Steel Housing
- 6mm thick

All Stainless Steel  
5/16" band, 1/4" screw

PART #	DIA. RANGE		BOX/CASE	
	MIN.	MAX.		
350004	7/32"	5/8"	200/2400	----
350005	7/16"	11/16"	200/2400	----
350006	5/16"	7/8"	200/2400	----
350008	7/16"	1"	200/1200	----
350010	1/2"	1-1/16"	200/1200	----
350012	9/16"	1-1/4"	200/1200	----
350016	11/16"	1-1/2"	200/1200	----
350020	7/8"	1-3/4"	200/1200	----

**Applications:** For agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

### 1/2" WIDE BAND CLAMPS (12.70MM)



#### 620 Series

- 5/16" Hex Slotted 305 Stainless Steel Screw
- 1/2" Wide 301 Stainless Steel Band
- 301 Stainless Steel Housing
- 60mm Thickness
- Use for underground and other high corrosive applications.
- For a sure grip application.
- Especially suited to industrial applications

All Stainless Steel  
1/2" band, 5/16" screw

PART #	#	DIA. RANGE		BOX/CASE	
		MIN.	MAX.		
620006	6	3/8"	7/8"	100/600	----
620008	8	7/16"	1"	100/600	----
620010	10	9/16"	1-1/16"	100/600	----
620012	12	9/16"	1-1/4"	100/600	----
620016	16	11/16"	1-1/2"	100/600	----
620020	20	3/4"	1-3/4"	100/300	----
620024	24	1-1/16"	2"	100/300	----
620028	28	1-5/16"	2-1/4"	100/300	----
620032	32	1-9/16"	2-1/2"	100/300	----
620036	36	1-13/16"	2-3/4"	50/200	----
620040	40	2-1/16"	3"	50/200	----
620044	44	2-5/16"	3-1/4"	50/200	----
620048	48	2-9/16"	3-1/2"	50/200	----
620052	52	2-13/16"	3-3/4"	25/100	----
620056	56	3-1/16"	4"	25/100	----
620060	60	3-5/16"	4-1/4"	25/100	----
620064	64	2-1/2"	4-1/2"	25/100	----
620072	72	3"	5"	25/100	----
620080	80	3-1/2"	5-1/2"	10/100	----
620088	88	4"	6"	10/100	----
620096	96	4-1/2"	6-1/2"	10/100	----
620104	104	5"	7"	10/100	----
620116	116	5-3/4"	7-3/4"	100/100	----
620128	128	6-1/2"	8-1/2"	100/100	----
620152	152	2"	10"	100/100	----
620164	164	1-3/4"	10-3/4"	100/100	----
620176	176	9-1/4"	11-1/4"	100/100	----
620188	188	9.9"	12-1/4"	100/100	----
620200	200	11"	13"	100/100	----
620212	212	11-3/4"	13-3/4"	100/100	----
620224	224	12-1/2"	14-1/2"	100/100	----
620248	248	10-3/4"	16"	100/100	----
620270	270	15-3/8"	17-3/8"	100/100	----
620312	312	18"	20"	100/100	----
620332	332	19-1/8"	21-1/4"	100/100	----
620390	390	22-7/8"	24-7/8"	100/100	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**#316 MARINE WORM GEAR CLAMPS**

## HOSE CLAMPS

## MINIATURE CLAMPS - 5/16" BAND

All #316 SS for Marine Environments

5/16" band, 1/4" screw



PART #	DIA. RANGE		BOX/CASE	
	MIN.	MAX.		
350004SS	7/32"	5/8"	200/2400	----
350005SS	7/16"	11/16"	200/2400	----
350006SS	5/16"	7/8"	200/2400	----
350008SS	7/16"	1"	200/1200	----
350010SS	1/2"	1-1/16"	200/1200	----
350012SS	9/16"	1-1/4"	200/1200	----
350016SS	11/16"	1-1/2"	200/1200	----
350020SS	7/8"	1-3/4"	200/1200	----

## 350SS Series

- 1/4" Hex Slotted 316 Stainless Steel Screw
- 316 Stainless Steel Band
- 8mm wide
- 60 mm thick
- 316 stainless Steel Housing

**Applications:** For marine, agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

## 1/2" WIDE BAND CLAMPS (12.70MM)



All #316 SS for Marine Environments

1/2" band, 5/16" screw

ALL 316SS PART #	#	DIA. RANGE		BOX/CASE	
		MIN.	MAX.		
620006SS	6	3/8"	7/8"	100/600	----
620008SS	8	7/16"	1"	100/600	----
620010SS	10	9/16"	1-1/16"	100/600	----
620012SS	12	9/16"	1-1/4"	100/600	----
620016SS	16	11/16"	1-1/2"	100/600	----
620020SS	20	3/4"	1-3/4"	100/300	----
620024SS	24	1-1/16"	2"	100/300	----
620028SS	28	1-5/16"	2-1/4"	100/300	----
620032SS	32	1-9/16"	2-1/2"	100/300	----
620036SS	36	1-13/16"	2-3/4"	50/200	----
620040SS	40	2-1/16"	3"	50/200	----
620044SS	44	2-5/16"	3-1/4"	50/200	----
620048SS	48	2-9/16"	3-1/2"	50/200	----
620052SS	52	2-13/16"	3-3/4"	25/100	----
620056SS	56	3-1/16"	4"	25/100	----
620060SS	60	3-5/16"	4-1/4"	25/100	----
620064SS	64	2-1/2"	4-1/2"	25/100	----
620072SS	72	3"	5"	25/100	----

## 620SS Series

- 5/16" Hex Slotted 316 Stainless Steel Screw
- 1/2" Wide 316 Stainless Steel Band
- 316 Stainless Steel Housing
- 60mm Thickness
- Use for marine, underground and other high corrosive applications.



# QUICK RELEASE

## HOSE CLAMPS

# QUICK RELEASE

## 500/550 SERIES

These clamps feature a unique quick release design between the one piece housing and band allowing for quick and easy installation in restricted or difficult areas.

**Applications:** Quick release action permits easy installation in applications where clamp must be opened to be applied. Quick release clamps are used extensively in the telecommunications industry on cable enclosures where open air application demands durability.



Open/Close design allows easy installation.



### 500 Series

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" 301 Stainless Steel band
- 301 Stainless Steel Housing
- 410 Stainless Steel Bridge

### 550 Series

- 5/16" Hex Slotted 410 Stainless Steel Screw
- 1/2" 301 Stainless Steel band
- 301 Stainless Steel Housing
- 410 Stainless Steel Bridge

PART #	#	DIA. RANGE		PART #
		MIN.	MAX.	
500012	12	1/2"	1-1/4"	550012
500020	20	3/4"	1-3/4"	550020
500028	28	1"	2-1/4"	550028
500036	36	1"	2-3/4"	550036
500048	48	1-1/2"	3-1/2"	550048
500056	56	1"	4"	550056
500072	72	2"	5"	550072
500088	88	2-1/16"	6"	550088
500104	104	1-3/4"	7"	550104
500128	128	1-3/4"	8-9/16"	550128
500152	152	2"	10"	550152
500188	188	2-1/16"	12-5/16"	550188
500216	216	10-3/16"	14"	550216
500248	248	10-3/4"	16"	550248
500280	280	14-1/4"	18"	550280
	312	14"	20"	550312

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# T-BOLT CLAMPS

## HOSE CLAMPS

# T-BOLT CLAMPS

- All designs meet SAE J1508 specifications.
- .025" Band Thickness
- 3/4" Wide Band
- Band Material: 301 Series Stainless Steel
- Bolt Material: 304 Series Stainless Steel
- Nut Material: 304 Series Stainless Steel
- Nuts are Self-locking
- Torque Rating 75 in/lb

Opens 1/16" above and tightens 1/8" smaller  
 then nominal I.D. for a total of 3/16" range  
 for clamps sizes 150 through 250. Opens  
 1/16" above and tightens 7/32" smaller  
 then nominal I.D. for clamps sizes 256  
 through 750.



Purpose: To provide a quick, yet effective means of clamping a variety of fittings to a wide range of hose. T-Bolts can be applied with a standard 7/16" socket wrench. They provide 3600 sealing surface by using a shoe or formed bridge.

Services: The T-Bolt clamp is a high strength, reliable clamp with numerous applications in both the commercial and industrial markets including hose and ductwork connections for air, oil, water, other types of low pressure fluid lines, engine air intake, exhaust, hose and filters.

### ALL STAINLESS STEEL

NOMINAL SIZE	O.D. RANGE		PART#	
	FROM:	TO:		
1-1/4	1-5/32"	1-15/32"	840131	----
1-1/2	1-3/8"	1-9/16"	840150	----
1-3/4	1-5/8"	1-13/16"	840175	----
1-7/8	1-3/4"	1-15/16"	840188	----
2	1-7/8"	2-1/16"	840200	----
2-1/4	2-1/8"	2-5/16"	840225	----
2-3/8	2-1/4"	2-7/16"	840238	----
2-1/2	2-3/8"	2-9/16"	840250	----
2-9/16	2-11/32"	2-5/8"	840256	----
2-5/8	2-13/32"	2-11/16"	840263	----
2-3/4	2-17/32"	2-13/16"	840275	----
2-7/8	2-21/32"	2-15/16"	840288	----
3	2-25/32"	3-1/16"	840300	----
3-1/8	2-29/32"	3-3/16"	840312	----
3-1/4	3-1/32"	3-5/16"	840325	----
3-1/2	3-9/32"	3-9/16"	840350	----
3-3/4	3-17/32"	3-13/16"	840375	----
3-53/64	3-19/32"	3-7/8"	840382	----
4	3-25/32"	4-1/16"	840400	----
4-1/4	4-1/32"	4-5/16"	840425	----
4-1/2	4-9/32"	4-9/16"	840450	----
4-3/4	4-17/32"	4-13/16"	840475	----
5	4-25/32"	5-1/16"	840500	----
5-1/4	5-1/32"	5-5/16"	840525	----
5-1/2	5-9/32"	5-9/16"	840550	----
5-3/4	5-17/32"	5-13/16"	840575	----
6	5-25/32"	6-1/16"	840600	----
6-1/4	6-1/32"	6-5/16"	840625	----
6-1/2	6-9/32"	6-9/16"	840650	----
6-3/4	6-17/32"	6-13/16"	840675	----
7	6-25/32"	7-1/16"	840700	----
7-1/2	7-9/32"	7-9/16"	840750	----
8	7-25/32"	8-1/16"	840800	----
8-1/4	8-9/32"	8-9/16"	840850	----
8-7/8	8-21/32"	8-15/16"	840888	----
10-7/8	10-21/32"	10-15/16"	8401088	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE CLAMPS

## HOSE CLAMPS

# MEGA CLAMPS

Rugged heavy duty wide band clamps for use in medium duty air and water, general industrial, automotive, food and agricultural applications.

### MEGAKLAMP



IMPORT

#### Megaklump Series

Clamp sizes for hose O.D. from 17 mm to 252 mm

Yellow zinc plated steel Band/Bridge/Trunnion/Sleeve/Bolt

Band gauge from 0.6 mm to 1.7 mm depending upon clamp size

Band width from 18 mm to 26 mm depending upon clamp size

Bolt size from 5 mm to 10 mm depending upon clamp size

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
MKL-019-SP	17-19	0.67	0.75	1.02	----
MKL-022-SP	20-22	0.79	0.87	1.02	----
MKL-025-SP	23-25	0.87	0.98	1.02	----
MKL-028-SP	26-28	1.02	1.10	1.02	----
MKL-031-SP	29-31	1.14	1.22	1.02	----
MKL-035-SP	32-35	1.26	1.38	1.02	----
MKL-039-SP	36-39	1.42	1.54	1.02	----
MKL-043-SP	40-43	1.57	1.69	0.87	----
MKL-047-SP	44-47	1.73	1.85	0.87	----
MKL-051-SP	48-51	1.89	2.01	0.87	----
MKL-055-SP	52-55	2.05	2.17	0.87	----
MKL-059-SP	56-59	2.20	2.32	0.87	----
MKL-063-SP	60-63	2.36	2.48	0.87	----
MKL-067-SP	64-67	2.52	2.64	0.94	----
MKL-073-SP	68-73	2.68	2.87	0.94	----
MKL-079-SP	74-79	2.91	3.11	0.94	----
MKL-085-SP	80-85	3.15	3.35	0.94	----
MKL-091-SP	86-91	3.39	3.58	0.94	----
MKL-097-SP	92-97	3.62	3.82	0.94	----
MKL-103-SP	98-103	3.86	4.06	0.94	----
MKL-112-SP	104-112	4.09	4.41	0.94	----
MKL-121-SP	113-121	4.45	4.76	0.94	----
MKL-130-SP	122-130	4.80	5.12	0.94	----
MKL-139-SP	131-139	5.16	5.47	1.02	----
MKL-148-SP	140-148	5.51	5.83	1.02	----
MKL-161-SP	149-161	5.87	6.34	1.02	----
MKL-174-SP	162-174	6.38	6.85	1.02	----
MKL-187-SP	175-187	6.89	7.36	1.02	----
MKL-200-SP	188-200	7.40	7.87	1.02	----
MKL-213-SP	201-213	7.91	8.39	1.02	----
MKL-226-SP	214-226	8.43	8.90	1.02	----
MKL-239-SP	227-239	8.94	9.41	1.02	----

### M6 MAXI CLAMP LIGHT



IMPORT

#### M6 Maxiclamp Series

Clamp sizes for hose O.D. from 23 mm to 43 mm

Silver (clear) zinc plated steel Band/Bridge/Trunnion/Sleeve/Bolt

Band gauge from 0.6 mm to 0.8 mm depending upon clamp size

Band width from 18 mm to 20 mm depending upon clamp size

Bolt size from 5 mm to 6 mm depending upon clamp size

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
M6-23	23-25	0.87	1.01	0.71	----
M6-26	26-28	1.02	1.13	0.71	----
M6-29	29-31	1.14	1.25	0.79	----
M6-32	32-35	1.26	1.41	0.79	----
M6-36	36-39	1.42	1.56	0.79	----
M6-40	40-43	1.57	1.72	0.79	----

### M6 STAINLESS MAXI CLAMP LIGHT

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
M6S-23	23-25	0.87	1.01	0.71	----
M6S-26	26-28	1.02	1.13	0.71	----
M6S-29	29-31	1.14	1.25	0.79	----
M6S-32	32-35	1.26	1.41	0.79	----
M6S-36	36-39	1.42	1.56	0.79	----
M6S-40	40-43	1.57	1.72	0.79	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**HOSE CLAMPS**

## HOSE CLAMPS

**M8 MAXI CLAMP STANDARD**

IMPORT



M8 Maxiclamp Series

Clamp sizes for hose O.D. from 44 mm to 130 mm

Silver (clear) zinc plated steel Band/Bridge/Trunion/Sleeve

8 mm silver zinc plated bolt

Band gauge from 1.2 mm to 1.5 mm depending upon clamp size

Band width from 22 mm to 24 mm depending upon clamp size

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
M8-44	44-47	1.73	1.88	0.87	----
M8-48	48-51	1.89	2.04	0.87	----
M8-52	52-55	2.05	2.17	0.87	----
M8-56	56-59	2.20	2.35	0.87	----
M8-60	60-63	2.36	2.51	0.87	----
M8-64	64-67	2.52	2.67	0.87	----
M8-68	68-73	2.68	2.90	0.94	----
M8-74	74-79	2.91	3.14	0.94	----
M8-80	80-85	3.15	3.38	0.94	----
M8-86	86-91	3.39	3.61	0.94	----
M8-92	92-97	3.62	3.85	0.94	----
M8-98	98-103	3.86	4.08	0.94	----
M8-104	104-112	4.09	4.44	0.94	----
M8-113	113-121	4.45	4.79	0.94	----
M8-122	122-130	4.80	5.15	0.94	----

**M8S MAXI CLAMP STANDARD**

IMPORT



M8S Maxiclamp Series

Clamp sizes for hose O.D. from 44 mm to 130 mm

301 Stainless steel Band/Bridge/Trunion/Sleeve

8 mm A2-70 Stainless steel bolt

0.8 mm thick band

Band width from 22 mm to 24 mm depending upon clamp size

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
M8S-44	44-47	1.73	1.88	0.87	----
M8S-48	48-51	1.89	2.04	0.87	----
M8S-52	52-55	2.05	2.17	0.87	----
M8S-56	56-59	2.20	2.35	0.87	----
M8S-60	60-63	2.36	2.51	0.87	----
M8S-64	64-67	2.52	2.67	0.87	----
M8S-68	68-73	2.68	2.90	0.94	----
M8S-74	74-79	2.91	3.14	0.94	----
M8S-80	80-85	3.15	3.38	0.94	----
M8S-86	86-91	3.39	3.61	0.94	----
M8S-92	92-97	3.62	3.85	0.94	----
M8S-98	98-103	3.86	4.08	0.94	----
M8S-104	104-112	4.09	4.44	0.94	----
M8S-113	113-121	4.45	4.79	0.94	----
M8S-122	122-130	4.80	5.15	0.94	----
M8S-131	131-139	5.16	5.50	1.02	----
M8S-140	140-148	5.51	5.86	1.02	----
M8S-149	149-161	5.87	6.37	1.02	----
M8S-162	162-174	6.38	6.88	1.02	----

**M10 MAXI CLAMP HEAVY**

IMPORT



M10S Maxiclamp Series

Select sizes available

301 Stainless steel Band/Bridge/Trunion/Sleeve

10 mm A2-70 Stainless steel bolt

1.7 mm thick x 26 mm wide band

PART #	SIZE MM	DECIMAL MIN"	DECIMAL MAX"	WIDTH	
M10-131	131-139	5.16	5.50	1.02	----
M10-140	140-148	5.51	5.86	1.02	----
M10-149	149-161	5.87	6.37	1.02	----
M10-162	162-174	6.38	6.88	1.02	----
M10-175	175-187	6.89	7.39	1.02	----
M10-188	188-200	7.40	7.86	1.02	----
M10-201	201-213	7.91	8.42	1.02	----
M10-214	214-226	8.43	8.90	1.02	----
M10-227	227-239	8.94	9.44	1.02	----
M10-240	240-252	9.45	9.92	1.02	----

# SPRING LOADED T-BOLT

## HOSE CLAMPS

### SPRING LOADED T-BOLT HOSE CLAMP

- Per SAE standard J1508 Type "SLTB"
- .025 Band Thickness
- 3/4 (19mm) band width
- Heavy duty springs
- Band Material: 300 stainless
- T-bolt: Carbon steel w/ zinc plating
- Housing (Bridge): 300 Stainless
- Hex nut: Carbon Steel, Nylon insert
- Torque rating: 150 in-lbs (8.5 mm)



Purpose: To provide constant tension performance to compensate for the expansion and contraction when temperatures fluctuate. Provides high strength and a 360° seal. Tighten with a 7/16" wrench or hex nutdriver.

Services: Designed for use in high vibration and large diameter applications common in heavy trucks, industrial machinery, off road equipment, agricultural irrigation and machinery, for air intake and coolant adapter

PART #	SAE #	MIN - MAX	WGT	BOX QTY	
844213	40	2.13 - 2.44	0.170	100	----
844225	44	2.25 - 2.56	0.174	100	----
844238	48	2.38 - 2.69	0.179	100	----
844250	52	2.50 - 2.81	0.181	100	----
844263	56	2.63 - 2.94	0.183	100	----
844275	60	2.75 - 3.06	0.185	100	----
844300	68	3 - 3.31	0.187	100	----
844306	70	3.06 - 3.38	0.190	100	----
844313	72	3.13 - 3.44	0.192	100	----
844325	76	3.25 - 3.56	0.194	100	----
844338	80	3.38 - 3.69	0.196	100	----
844350	84	3.50 - 3.81	0.196	100	----
844356	86	3.56 - 3.88	0.196	100	----
844363	88	3.63 - 3.94	0.198	100	----
844375	92	3.75 - 4.06	0.198	100	----
844406	102	4.06 - 4.38	0.203	100	----
844413	104	4.13 - 4.44	0.209	100	----
844425	108	4.25 - 4.56	0.214	100	----
844456	118	4.56 - 4.88	0.216	100	----
844500	132	5 - 5.31	0.218	100	----
844525	140	5.25 - 5.56	0.220	100	----
844600	164	6 - 6.31	0.223	100	----
844625	172	6.25 - 6.56	0.225	100	----

Automatically adjust diameter for hose expansion and contraction due to temperature changes.

*Always turn a negative situation into a positive situation.*

*— Michael Jordan*

**CONSTANT TORQUE/ V-BAND**

HOSE CLAMPS

**CONSTANT TORQUE HOSE CLAMPS**

- All designs meet SAE J1508 specifications type "SLHD"
- .028 Band thickness
- Band material: 304 thickness
- Band width: 9/16" for 45in-lb  
5/8" for 90in-lb
- Band material: 304 stainless
- Housing: 304 stainless steel
- Bridge: 410 stainless steel
- Hex screw: 410 stainless steel



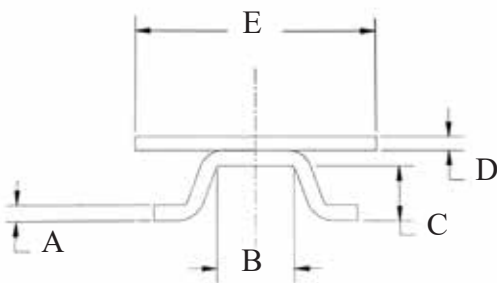
**Purpose:** To eliminate leaks by automatically increasing or decreasing the clamps diameter, decreasing the need for retightening. Constant torque clamps have an extended tail on the band to protect soft hose or tube from being cut.

**Services:** Constant torque clamps are an excellent choice for fluctuating and extreme temperature applications and thermal compensation.

PART #	CLAMPING RANGE	BAND WIDTH	TORQUE	SCREW SIZE	WGT	BOX QTY	
842010	9/16" - 1 1/16"	9/16"	72 in-lb	5/16"	0.106	100	----
842012	11/16" - 1 1/4"	9/16"	72 in-lb	5/16"	0.108	100	----
842016	13/16" - 1 1/2"	9/16"	72 in-lb	5/16"	0.112	100	----
842020	13/16" - 1 3/4"	9/16"	72 in-lb	5/16"	0.119	100	----
842024	1 1/16" - 2"	9/16"	72 in-lb	5/16"	0.121	100	----
842200	1 1/4" - 2 1/8"	5/8"	130 in-lb High	3/8"	0.207	100	----
842250	1 3/4" - 2 5/8"	5/8"	130 in-lb High	3/8"	0.216	100	----
842300	2 1/4" - 3 1/8"	5/8"	130 in-lb High	3/8"	0.220	100	----
842350	2 3/4" - 3 5/8"	5/8"	130 in-lb High	3/8"	0.225	100	----
842400	3 1/4" - 4 1/8"	5/8"	130 in-lb High	3/8"	0.231	100	----
842450	3 3/4" - 4 5/8"	5/8"	130 in-lb High	3/8"	0.238	100	----
842500	4 1/4" - 5 1/8"	5/8"	130 in-lb High	3/8"	0.256	100	----

**V-BAND HOSE CLAMPS**

- Band thickness: see chart
- Band width: see chart
- Band material: 300 stainless
- Trunnion: 300 stainless
- 1/4" T-bolt: 300 stainless



**Purpose:** to provide a fast, secure coupling for connecting flanged joints.

**Services:** V-Band clamps feature high strength and positive sealing integrity for applications including: heavy duty diesel engine exhaust and turbochargers, filter housings, emissions and general industrial applications.

PART#	NOMINAL DIAMETER	V-INSERT SECTIONS			BANDS		WGT	BOX QTY	
		A	B	C	D	E			
843321	3.21	0.050	0.262	0.141	0.035	0.750	0.525	100	----
843382	3.82	0.077	0.207	0.281	0.040	0.875	0.531	100	----
843388	3.88	0.050	0.400	0.281	0.040	0.875	0.536	100	----
843450	4.50	0.077	0.207	0.281	0.040	0.875	0.547	100	----
843461	4.61	0.050	0.156	0.281	0.035	0.750	0.549	100	----
843475	4.75	0.050	0.400	0.281	0.040	0.875	0.553	100	----
843525	5.25	0.050	0.262	0.141	0.035	0.750	0.567	100	----
843588	5.88	0.050	0.400	0.281	0.040	0.875	0.575	100	----



# HOSE CLAMPS

## HOSE CLAMPS

### DOUBLE BOLT CLAMPS



IMPORT

DBC Series

Rugged, heavy duty two bolt clamps with saddles

Zinc plated ductile iron clamps and saddles

Zinc plated carbon steel bolt and nuts



PART #	SIZE	SIZE RANGE	MAX TORQUE FT LBS	
DBC-40-DP	1-5/16	1-5/16" - 1-19/32"	20	----
DBC-60-DP	1-7/8	1-7/8" - 2-3/8"	25	----
DBC-76-DP*	2-3/8	2-3/8" - 3-1/16"	25	----
DBC-94-DP*	3-1/2	3-1/2" - 3-11/16"	40	----
DBC-400-DP*	3-1/2	3-1/2" - 4"	40	----
DBC-431-DP	3-13/16	3-13/16" - 4-1/16"	40	----
DBC-463-DP	4-1/16	4-1/16" - 4-7/16"	40	----
DBC-525-DP*	4-3/16	4-3/16" - 5"	60	----
DBC-550-DP*	5	5" - 5-1/2"	60	----
DBC-600-DP*	5-1/2	5-1/2" - 5-15/16"	60	----
DBC-639-DP	5-11/16	5-11/16" - 5-15/16"	60	----
DBC-675-DP*	6-1/8	6-1/8" - 6-7/8"	60	----
DBC-769-DP*	6-15/16	6-15/16" - 7-5/8"	60	----
DBC-818-DP	7-11/16	7-11/16" - 8-3/16"	125	----
DBC-875-DP*	8-1/4	8-1/4" - 8-7/8"	125	----
DBC-988-DP*	8-15/16	8-15/16" - 9-7/8"	125	----
DBC-1125-DP*	9-15/16	9-15/16" - 11-3/8"	125	----
DBC-1275-DP*	11-3/16	11-3/16" - 13"	125	----
DBC-1360-DP	12-3/16	12-3/16" - 14"	200	----



R88 Series

IMPORT

Rugged, heavy duty two bolt clamps without saddles

Zinc plated ductile iron clamp

Zinc plated carbon steel bolt and nuts



PART #	SIZE	SIZE RANGE	MAX TORQUE FT LBS	
R88DB-12-DP*	1-1/8	1-1/8" - 1-1/4"	15	----
R88DB-16-DP*	1-3/8	1-3/8" - 1-1/2"	20	----
R88DB-20-DP*	1-5/8	1-5/8" - 1-3/4"	25	----
R88DB-24-DP*	2	2" - 2-1/8"	25	----
R88DB-32-DP*	2-1/4	2-1/4" - 2-3/8"	30	----

**HOSE CLAMPS**

## HOSE CLAMPS

**SC SPIRAL CLAMP SERIES**

IMPORT

Spiral wound clamps specifically designed for use on heavily corrugated suction hoses. Available in left hand (counter clockwise) and right hand (clockwise) spiral. Zinc plated steel construction.



PART #	LIST	HOSE ID	O.D. RANGE MM	PART #	
SC-200R-SP*	----	2"	51 - 56	SC-200L-SP	----
SC-250R-SP	----	2-1/2"	61 - 76	SC-250L-SP	----
SC-300R-SP*	----	3"	76 - 90	SC-300L-SP	----
SC-400R-SP*	----	4"	106 - 118	SC-400L-SP	----
SC-500R-SP	----	5"	129 - 140	SC-500L-SP	----
SC-600R-SP*	----	6"	151 - 170	SC-600L-SP	----
SC-800R-SP	----	8"	198 - 217	SC-800L-SP	----
SC-1000R-SP	----	10"	274 - 290	SC-1000L-SP	----
SC-1200R-SP	----	12"	304 - 329	SC-1200L-SP	----



IMPORT

**M10DC MAXICLAMP SERIES**

Clamp sizes for hose O.D. from 131 mm to 252 mm  
 Silver (clear) zinc plated steel Band/  
 Bridge/Trunnion/Sleeve/Bolt  
 10 mm silver zinc plated steel bolts  
 1.7 mm thick x 30 mm wide band  
 Suggested installation torque 30 Nm  
 (22 Ft lbs)  
 Minimum breaking torque 40 Nm (29.5 ft.lbs.)

PART #	SIZE MM	RANGE	
M10DC-86	86 - 91	3.38" - 3.58"	----
M10DC-92	92 - 97	3.62" - 3.82"	----
M10DC-104	104 - 112	4.09" - 4.41"	----
M10DC-113	113 - 121	4.45" - 4.76"	----
M10DC-122	122 - 130	4.80" - 5.12"	----
M10DC-131	131 - 139	5.16" - 5.47"	----
M10DC-140	140 - 148	5.51" - 5.83"	----
M10DC-149	149 - 161	5.87" - 6.34"	----
M10DC-162	162 - 174	6.38" - 6.85"	----
M10DC-175	175 - 187	6.89" - 7.36"	----
M10DC-188	188 - 200	7.40" - 7.87"	----
M10DC-200	200 - 220	7.87" - 8.66"	----
M10DC-220	220 - 240	8.66" - 9.45"	----
M10DC-240	240 - 260	9.45" - 10.24"	----
M10DC-260	260 - 280	10.24" - 11.02"	----
M10DC-280	280 - 300	11.02" - 11.81"	----
M10DC-300	300 - 325	11.81" - 12.80"	----
M10DC-325	325 - 350	12.80" - 13.78"	----
M10DC-350	350 - 375	13.78" - 14.76"	----
M10DC-375	375 - 400	14.76" - 15.75"	----
M10DC-400	400 - 425	15.75" - 16.73"	----
M10DC-425	425 - 450	17.73" - 17.72"	----
M10DC-450	450 - 475	17.72" - 18.70"	----

# MUFFLER CLAMPS

Muffler Clamps are designed with elongated and tapered holes that pulls the legs around the pipe as the nuts tighten, making a tight seal. Other clamp legs do not wrap around the pipe, they stay straight and the clamp only connects at two points.

- Carbon steel band, housing and bridge
- All muffler clamps are zinc plated for superior corrosion resistance
- Heavy duty U-Bolt and band construction
- 3/8 U-bolt
- Base 2.4mm

## SADDLE



PART #	SIZE	WGT	BOX QTY	
841175	1-3/4"	0.335	50	----
841200	2"	0.410	50	----
841250	2-1/2"	0.448	50	----
841300	3"	0.582	50	----
841350	3-1/2"	0.741	50	----
841400	4"	0.847	25	----
841450	4-1/2"	1.023	25	----
841500	5"	1.067	25	----

## FLAT BAND



PART #	SIZE	WGT	BOX QTY	
841004	4"	0.847	25	----
841005	5"	1.093	25	----

## GUILLOTINE - PROVIDES A COMPLETE 360° HEAVY DUTY SEAL



PART #	SIZE	WGT	BOX QTY	
841040	4"	0.820	25	----
841045	4-1/2"	0.847	25	----
841050	5"	0.988	25	----


**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## EXHAUST HOSE CLAMPS

# EXHAUST CLAMPS

Complete with:

- One metal band - 76mm width
- One spacer
- Two bolts
- Two reaction blocks
- Individually boxed

- Pre-attached hardware for easy and accurate installation.

- Conforms to pipe and flex tubing to create the best seal available without distorting any pipes.

### ALUMINIZED STEEL BUTT CLAMPS

- .7mm band thickness
- 76mm band width



PART #	SIZE	WGT	BOX QTY	
845200	2"	0.970	50	----
845300	3"	1.058	50	----
845350	3.50"	1.102	50	----
845400	4"	1.146	50	----
845500	5"	1.235	50	----
845600	6"	1.323	50	----
845-500SS*	5"	1.190	50	----

\*Light pattern .5mm band thickness

### ALUMINIZED STEEL LAP CLAMPS

- .7mm band thickness
- 76mm band width



PART #	SIZE	WGT	BOX QTY	
846200	2"	0.970	50	----
846250	2.50"	1.014	50	----
846275	2.75"	1.036	50	----
846300	3"	1.058	50	----
846350	3.50"	1.102	50	----
846400	4"	1.146	50	----
846500	5"	1.235	50	----

### STAINLESS STEEL LAP CLAMPS

- .5mm band thickness
- 76mm band width



PART #	SIZE	WGT	BOX QTY	
847200	2"	0.926	50	----
847250	2.50"	0.970	50	----
847275	2.75"	0.992	50	----
847300	3"	1.014	50	----
847350	3.50"	1.058	50	----
847400	4"	1.102	50	----
847500	5"	1.190	50	----
847600	6"	1.279	50	----

### STAINLESS STEEL EASY-FORM CLAMPS

- .5mm band thickness
- 76mm band width



PART #	SIZE	WGT	BOX QTY	
848200	2"	0.926	50	----
848225	2.25"	0.948	50	----
848250	2.50"	0.970	50	----
848275	2.75"	0.992	50	----
848300	3"	1.014	50	----
848350	3.50"	1.058	50	----
848400	4"	1.102	50	----
848500	5"	1.190	50	----
848600	6"	1.279	50	----
848700	7"	1.367	50	----

**WARNING:** This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# CARBON STEEL 1-EAR

HOSE CLAMPS

## CARBON STEEL 1-EAR CLAMPS

1-Ear Clamps are intended for low pressure applications such as automotive (not fuel lines), appliances, industrial machinery, underground irrigation systems and beverage dispensing equipment. They are specifically designed for mass production applications where inexpensive clamps are needed.

### Pressure:

As a guideline, 1-Ear Clamps have held 30 bar - 441 psi.

This was done using a static water pressure test.

• 100 PER BAG



### Material:

Hot dipped galvanized carbon steel band - G90

PART #	REF#	NOMINAL SIZE	INCHES		
			CLOSE	OPEN	
1050000	105	3/8"	0.350	0.414	----
1050001	113	7/16"	0.381	0.444	----
1050002	123	15/32"	0.394	0.486	----
1050003	133	1/2"	0.453	0.524	----
1050006	140	35/64"	0.472	0.551	----
1050007	145	9/16"	0.496	0.571	----
1050008	157	5/8"	0.543	0.618	----
1050009	170	11/16"	0.594	0.669	----
1050010	185	23/32"	0.618	0.728	----
1050011	198	3/4"	0.669	0.779	----
1050012	210	13/16"	0.716	0.827	----
1050013	226	7/8"	0.779	0.890	----
1050014	241	15/16"	0.839	0.949	----
1050015	256	1"	0.898	1.008	----
1050016	271	1-1/16"	0.945	1.067	----
1050017	286	1-1/8"	1.004	1.126	----
1050018	301	1-3/16"	1.063	1.185	----
1050020	331	1-5/16"	1.181	1.303	----
1050021	346	1-3/8"	1.240	1.362	----
1050023	376	1-15/32"	1.358	1.480	----
1050025	396	1-9/16"	1.437	1.559	----
1050026	410	1-5/8"	1.492	1.614	----
1050029	455	1-3/4"	1.669	1.791	----
1050030	470	1-16/16"	1.728	1.850	----
1050032	500	1-15/16"	1.846	1.968	----
1050033	515	2"	1.905	2.028	----

The art of communication is the language of leadership. - James Humes

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**HOSE CLAMPS**

HOSE CLAMPS

**EAR CLAMPS****2-EAR PINCH CLAMPS**

Robust, durable one-piece design offers positive, tamper resistant seal for air and fluid media lines smooth edges prevent damage to hose designed for one time use only

**CIRCLE CLAMP 2 EAR**

White zinc plated carbon steel



PART #	SIZE	CLOSED	OPEN	
CC-1113	1/2	0.433	0.512	----
CC-1315	9/16	0.512	0.591	----
CC-1517	19/32	0.591	0.669	----
CC-1518	5/8	0.591	0.709	----
CC-1720	3/4	0.669	0.787	----
CC-2023	7/8	0.787	0.906	----
CC-2225	15/16	0.866	0.984	----
CC-2327	1	0.906	1.063	----
CC-2528	1-1/16	0.984	1.102	----
CC-2731	1-1/8	1.063	1.220	----
CC-3134	1-5/16	1.220	1.339	----
CC-3437	1-7/16	1.339	1.457	----
CC-3740	1-1/2	1.457	1.575	----

**GAPLESS EAR CLAMPS****Features**

- Assured clamping seal
  - For low durometer and/ or thin-walled hose/ tubing
  - Perfect for silicon, vinyl, polyurethane or other high tech materials used in all industries.
  - Once installed, smooth inner band circumference prevents damage to the hose while the unique tongue-in-groove design provides a 360° seal
  - There are no steps or gaps inside clamp
- Material
- Stainless steel tubing UNS S30400 or DIN 1.4301
  - 100 PER BAG



PART #	NOMI- NAL SIZE	BAND WIDTH	INCHES		
			CLOSE	OPEN	
16700001	9/32"	5mm	0.228	0.276	----
16700004	3/8"	5mm	0.307	0.374	----
16700007	7/16"	5mm	0.378	0.445	----
16700010	1/2"	7mm	0.425	0.524	----
16700012	35/64"	7mm	0.453	0.551	----
16700013	9/16"	7mm	0.472	0.571	----
16700016	5/8"	7mm	0.520	0.618	----
16700017	11/16"	7mm	0.571	0.669	----
16700022	3/4"	7mm	0.654	0.780	----
16700024	13/16"	7mm	0.701	0.827	----

**HAMMERLOCK CPHL SERIES**

Double wrapped galvanized steel band preformed to a given diameter and ready for application. Stainless steel lok for strength.



IMPORT



PART #	SIZE	WIDTH	
CPHL-03	1-3/16"	3/8"	----
CPHL-04	1"	5/8"	----
CPHL-05*	1-1/4"	5/8"	----
CPHL-06	1-1/2"	5/8"	----
CPHL-07*	1-3/4"	5/8"	----
CPHL-08*	2"	5/8"	----
CPHL-09	2-1/4"	5/8"	----
CPHL-10*	2-1/2"	5/8"	----
CPHL-11*	2-3/4"	5/8"	----
CPHL-12	3"	5/8"	----
CPHL-14*	3-1/2"	5/8"	----
CPHL-16*	4"	5/8"	----
CPHL-18	4-1/2"	5/8"	----
CPHL-20*	5"	5/8"	----
CPHL-24*	6"	5/8"	----
CPHL-26	6-1/2"	5/8"	----
CPHL-28*	7"	5/8"	----
CPHL-32	8"	5/8"	----

**HAMMERLOCK CPHL SERIES**

Double wrapped stainless steel band preformed to a given diameter and ready for application. Stainless steel lok for strength.

IMPORT



PART #	SIZE	WIDTH	
CPHLS-04*	1"	5/8"	----
CPHLS-05*	1-1/4"	5/8"	----
CPHLS-06*	1-1/2"	5/8"	----
CPHLS-07*	1-3/4"	5/8"	----
CPHLS-08*	2"	5/8"	----
CPHLS-09*	2-1/4"	5/8"	----
CPHLS-10*	2-1/2"	5/8"	----
CPHLS-11*	2-3/4"	5/8"	----
CPHLS-12*	3"	5/8"	----
CPHLS-14*	3-1/2"	5/8"	----
CPHLS-16*	4"	5/8"	----
CPHLS-18*	4-1/2"	5/8"	----
CPHLS-20*	5"	5/8"	----
CPHLS-24*	6"	5/8"	----
CPHLS-28*	7"	5/8"	----
CPHLS-32	8"	5/8"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# CLAMPING TOOLS

## HOSE CLAMPS

### MODEL 1098 I STANDARD JAW PINCERS

Domestic

<b>PART #</b>		
OETP-1098		----

Import

<b>PART #</b>		
CCP-1098		----



<b>PART #</b>		
1410118		----

### SIDE JAW PINCERS

This dual purpose, side jaw design allows clamps to be applied or removed in confined areas with pincers held parallel to the hose. Also used like standard Pincers.

Domestic



<b>PART #</b>		
1410083	Model 10991	----

### TPT TOOLS AND PARTS



<b>PART #</b>		
TPT-1		----

### HOSE CRIMPER



HOSE CRIMPER COMES WITH 5 DIES  
Die Sizes = 5/8", 37/64", 12/32", 31/64", 11/16"

<b>PART #</b>		
308070	Hose Crimper	----

### LOKING TOOL



<b>PART #</b>		
F38		----

Portable hand tool used to apply punch Type 3/8 & 5/8 Clamps

### BUCHANAN TYPE



### LOKING TOOL



<b>PART #</b>		
F40		----

Used to apply Punch Type 3/8 & 5/8 clamps. Order mallet separately

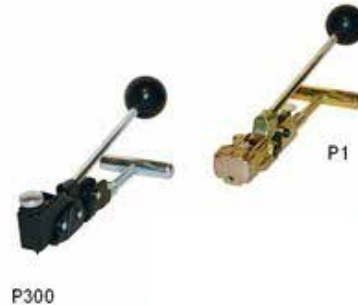
### LOKING TOOL



Used to apply Punch Type 3/8 & 5/8 clamps. Order mallet separately

<b>PART #</b>		
F100		----

### LOKING TOOL HD



<b>PART #</b>		
P1	HEAVY DUTY	----
P300	IMPORTED VERSION	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# LINED BAND CLAMPS

## HOSE CLAMPS



Features unique one-piece housing, rolled-up band edges and a non-perforated (embossed) band that protects the hose. For added corrosion resistance, the band in the 12mm Standard is made of Aluzinc which gives three times the protection offered by conventional galvanized steel.

- Features high clamping force and high durability torque.

- Stainless: All parts in AISI 304 Stainless Steel.

A non-perforated band with rolled up edges eliminates hose damage while increasing clamping force.

Per SAE standard J1508 Type "FEO"

### GENERAL PURPOSE EMBOSSED WORM-GEAR HOSE CLAMPS

- Minimum Qty may apply

Part # Aluzinc	SAE Size	Clamping Range		Bag	Part# 304 SS
		Inches	mm		
88024	8	5/8-1	15-24	1000	89024
88028	10	3/4-1-1/8	19-28	500	89028
88032	12	7/8-1-1/4	22-32	500	89032
88038	16	1-1/16-1-1/2	26-38	500	89038
	20	1-1/4-1-3/4	32-44	500	89044
88050	24	1-1/2-2	38-50	500	89050
88056	28	1-3/4-2-1/4	44-56	500	89056
88065	32	2-2-9/16	50-65	200	89065
88075	40	2-5/16-3	58-75	200	89075
88085	44	2-11/16-3-3/8	68-85	200	89085
88095	52	3-3-3/4	77-95	200	89095
88112	64	3-7/16-4-7/16	87-112	200	89112

### MINI CLAMPS

Sure seal for small, thin walled hoses. The nut is secured to the clamp, making installation easier and the hexagonal head can be tightened with a socket wrench or screw driver. Bandwidth is 9mm.

#### PAINTED ALUZINC STANDARD MINI CLAMPS



PART # ALUZINC	CLAMPING RANGE		QTY PER BAG
	INCHES	MM	
92010	.36-.41	9-10.5	1000
92011	.37-.45	9.5-11.5	900
92012	.41-.49	10.5-12.5	800
92013	.45-.53	11.5-13.5	800
92014	.49-.57	12.5-14.5	700
92015	.53-.61	13.5-15.5	600
92016	.55-.65	14-16.5	500
92017	.59-.69	15-17.5	500



### MARINE - EMBOSSED NON-PERFORATED WORM GEAR CLAMPS

- Meets the DIN 3017 Standard
- Replaces the Ultra Clamps 316 stainless steel
- 12mm band widths
- Installation torque 60lbs
- General purpose non perforated band especially suited for most hoses and soft silicone hoses.
- Band edges rolled to protect soft hoses from shearing and fraying
- Common applications include: vehicular, industrial, mechanical engineering, plumbing and marine.
- ROLLED EDGES
- BAND WILL NOT DAMAGE SOFT HOSES

#### ALL #316 SS MATERIAL

#### 12MM WIDE EMBOSSED ALL 316 BAND CLAMPS

PART #	RANGE OF ADJUST (IN MM)	RANGE OF ADJUST (INCHES)
96022	12-22	.469-.859
96027	16-27	.625-1.06
96032	20-32	.787-1.26
96040	25-40	.984-1.575
96050	35-50	1.26-1.969
96060	40-60	1.575-2.362
96070	50-70	1.969-2.756
96080	60-80	2.362-3.15
96090	70-90	2.756-3.543
96100	80-100	3.15-3.937
96110	90-110	3.543-4.33
96120	100-120	3.937-4.724
96130	110-130	4.33-5.118
96140	120-140	4.72-5.512
96150	130-150	5.118-5.906
96160	140-160	5.512-6.299

### MINI CLAMPS

#### 304 SS MINI CLAMPS



PART # 304 SS	CLAMPING RANGE		QTY PER BAG
	INCHES	MM	
93008	.30-.34	7.5-8.5	1000
93009	.34-.37	8.5-9.5	1000
93011	.41-.47	10.5-12	900
93013	.49-.55	12.5-14	800
93014	.53-.59	13.5-15	700
93016	.59-.67	15-17	1000
93017	.63-.71	16-18	500

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# LINED, MINI/ RUBBER LINED

## HOSE CLAMPS



### RUBBER LINED CLAMPS

Multiple uses for holding cable, wire, pipe and hose. The rubber cushion absorbs vibration, provides protection against scratching and is made of black EPDM type rubber.

Rubber cushion clamps are used in a variety of industries and applications including automotive, truck, hydraulics and pneumatics, ship building, refrigeration, large equipment packaging etc.

Bandwidths and mounting hose sizes vary by diameter and material.

- Aluzinc clamps have a .26 hole diameter
- Stainless Steel .20 diameter

PART # ALUZ- INC	QTY PER BAG		CLAMPING RANGE		PART# 304 SS	QTY PER BAG	
			INCHES	MM			
95300	100	----	1/8	3			
95301	100	----	3/16	5	96301	1000	----
95302	100	----	1/4	6	96302	200	----
95303	100	----	5/16	8	96303	1000	----
95304	100	----	3/8	10	96304	100	----
95305	100	----	7/16	11	96305	1000	----
95306	100	----	1/2	13	96306	100	----
95307	100	----	9/16	14	96307	100	----
95308	100	----	5/8	16	96308	100	----
95309	50	----	11/16	18			
95310	50	----	3/4	19	96310	500	----
95311	50	----	13/16	21			
95312	50	----	7/8	22	96312	500	----
95313	50	----	15/16	24			
95314	50	----	1	25	96314	500	----
95315	50	----	1-1/16	27			
95316	50	----	1-1/8	29	96316	500	----
95317	50	----	1-3/16	30			
95318	50	----	1-1/4	32	96318	500	----
95319	50	----	1-5/16	33			
95320	50	----	1-3/8	35	96320	500	----
95321	50	----	1-7/16	36			
95322	500	----	1-1/2	38	96322	100	----
95326	50	----	1-5/8	41			
95323	25	----	1-3/4	45	96323	500	----
95328	25	----	1-7/8	47			
95324	25	----	2	51			
95325	25	----	2-1/8	54			
95329	25	----	2-3/8	60			
95327	25	----	2-1/2	65			
95330	15	----	2-15/16	74			
95331	10	----	4-5/16	110			



### RUBBER CUSHIONED CLAMP, ZINC PLATED STEEL

PART #	MOUNTING DIA	CLAMP DIA	
95402	3/8"	1/4"	----
95404	3/8"	3/8"	----
95406	3/8"	1/2"	----
95408	3/8"	5/8"	----
95410	3/8"	3/4"	----
95414	3/8"	1"	----
95418	3/8"	1 1/4"	----
95422	3/8"	1 1/2"	----
95424	3/8"	2"	----
95427	3/8"	2 1/2"	----
95432	3/8"	3"	----
95433	3/8"	4"	----



### GALVANIZED STEEL VINYL COATED CLAMP

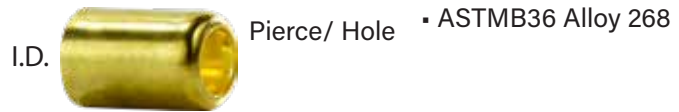
PART #	MOUNTING DIA	CLAMP DIA	
95504	1/4"	3/8"	----
95506	1/4"	1/2"	----
95508	1/4"	5/8"	----
95510	1/4"	3/4"	----
95512	1/4"	7/8"	----
95514	1/4"	1"	----
95516	1/4"	1 1/8"	----
95518	1/4"	1 1/4"	----
95522	1/4"	1 1/2"	----
95523	1/4"	1 3/4"	----
95524	1/4"	2"	----

**HOSE FERRULES**

HOSE CLAMPS

**HOSE FERRULES**

Brass Hose Ferrules offer an alternative to hose clamps. After crimping, the ferrule will provide a permanent clamping force on both the hose and fitting.



PART #	FER-RULE #	I.D.	LENGTH	PIERCE	GAUGE	
32500	6231	0.330	0.49	0.250	0.020	----
32501	833	0.358	0.500	0.265	0.020	----
32503	833B	0.375	0.718	0.265	0.025	----
32502	622	0.380	0.500	0.265	0.020	----
32550	619	0.400	0.47	0.27	0.020	----
32504	620	0.410	0.500	0.265	0.020	----
32551	769R	0.450	0.562	0.343	0.020	----
32552	4750	0.478	0.687	0.328	0.025	----
32553	624R	0.500	0.500	0.343	0.020	----
32506	7322A	0.500	1.000	0.343	0.025	----
32554	7322	0.500	1.000	0.328	0.025	----
32555	625	0.525	0.47	0.36	0.020	----
32517	625A	0.525	0.56	0.360	0.020	----
32556	7323	0.525	1.000	0.375	0.025	----
32521	9974	0.525	1.000	0.437	0.025	----
32557	7324	0.531	1.000	0.375	0.025	----
32558	626	0.550	0.484	0.375	0.020	----
32507	3588	0.56	0.75	0.375	0.020	----
32559	7325	0.56	1.000	0.437	0.025	----
32561	7326	0.593	1.000	0.437	0.025	----
32563	JJ	0.600	0.500	0.500	0.020	----
32526	II	0.625	0.500	0.500	0.020	----
32564	7327	0.625	1.000	0.437	0.025	----
32565	HH	0.650	0.500	0.500	0.020	----
32566	7328	0.656	1.000	0.437	0.025	----
32567	GG	0.675	0.515	0.500	0.020	----
32568	7329	0.69	1.000	0.500	0.025	----

PART #	FER-RULE #	I.D.	LENGTH	PIERCE	GAUGE	
32570	7330	0.718	1.000	0.500	0.025	----
32508	7330A	0.718	1.000	0.625	0.025	----
32571	EE	0.725	0.530	0.500	0.020	----
32572	DD	0.750	0.531	0.500	0.020	----
32510	7331B	0.75	1.00	0.500	0.025	----
32573	7331	0.750	1.000	0.625	0.025	----
32574	CC	0.775	0.531	0.500	0.020	----
32533	7332B	0.781	1.000	0.500	0.025	----
32575	7332	0.781	1.000	0.625	0.025	----
32576	BB	0.800	0.546	0.562	0.020	----
32577	7333	0.812	1.000	0.625	0.025	----
32578	AA	0.825	0.546	0.562	0.020	----
32535		0.85	0.968	0.687	0.025	----
32579	7244	0.875	0.843	0.687	0.025	----
32539	5029A	0.900	0.875	0.687	0.025	----
32580	7113	0.925	0.968	0.750	0.025	----
32543	5028A	0.975	0.843	0.687	0.025	----
32545	5235A	1.000	0.843	0.687	0.025	----
32549	7145A	1.050	0.843	0.687	0.025	----
32584	5027	1.100	0.843	0.812	0.025	----
32586	7104A	1.15	0.843	0.875	0.025	----
32588	7088A	1.175	0.875	0.875	0.025	----
32590	875L	1.200	0.843	0.875	0.025	----
32591	7291	1.225	0.968	0.875	0.025	----
32592	7255	1.25	0.968	1.000	0.04	----
32596	8000	1.425	0.875	1.062	0.025	----
32597	1500	1.50	0.875	1.125	0.025	----

**STAINLESS STEEL FERRULES**

PART #	CROSS #	I.D.	LENGTH	HOLE	METAL THICKNESS	
32552SS	x4750	.478	.687	.328	.020	----
32557SS	7324	.531	1.00	.438	.020	----
32559SS	7325	.56	1.00	.437	.020	----
32561SS	7326	.593	1.00	.437	.020	----
32564SS	7327	.625	1.00	.437	.020	----
32566SS	7328	.656	1.00	.437	.020	----
32568SS	7329	.69	1.00	.50	.020	----
32570SS	7330	.718	1.00	.625	.020	----
32575SS	7332	.781	1.00	.625	.020	----
32577SS	7333	.812	1.00	.625	.020	----
32588SS	7088A	1.175	.844	.875	.020	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**TUBING**

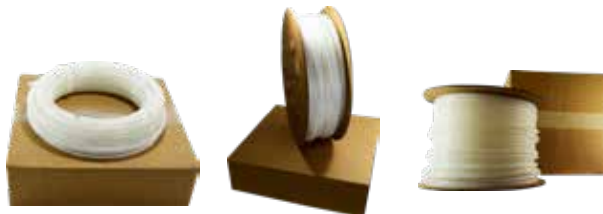


**POLYURETHANE**



**POLYETHYLENE**

Sold individually boxed



Natural, Black, Blue, Green, Red, Yellow, Orange

**NYLON**

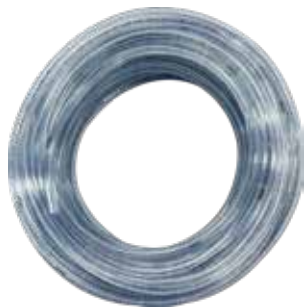
Sold individually boxed



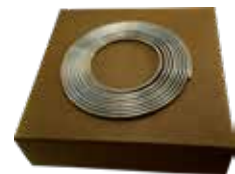
**PVC**

• Clear

Sold individually boxed



**COPPER AND ALUMINUM**



**TYPE L AND REFRIGERATION**

**ALUMINUM**



**POLYURETHANE**  
TUBING

**POLYURETHANE NSF 51®**



NSF 51® polyurethane (PUR) Shore A 98 tubing is made from the highest quality raw materials available. It is etherbased to provide excellent hydrolysis, oil and cold resistance. Polyurethane NSF 51® is strong and flexible and offers superior kink resistance compared to other tubing. It is 5 to 10 times more wear resistant and lighter in weight than any rubber hose.

Polyurethane NSF 51® tubing has an outside diameter made to extremely tight tolerances. It is ideal for use with push-to-connect fittings, as well as barb-type and compression fittings for simple installation.

**Features**

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat & Cold Resistant
- Chemical Resistant
- Kink Resistant
- NSF 51® Certified
- Meets NSF 61® Requirements

**Specifications**

Temperature Range: -40°F to +160°F  
 Hardness: Shore A 98  
 Vacuum Rating:  
 To 28" Hg  
 Tolerances:  
 1/8"-1/2" O.D. +/- .005  
 9/16"-3/4" O.D. +/- .006  
 RoHS Compliant

**Applications**

Pneumatic Tools      Lube Lines  
 Pneumatic Piping      Painting Systems  
 Vacuum      Food & Beverages  
 Laboratories  
 Robotics  
 Motion Control  
 Instrumentation  
 Agriculture

**100' FOOT LENGTHS**

**CLEAR**



PART #	O.D. (IN)	I.D. (IN)	WALL THICKNESS (IN)	BEND RADIUS (IN)	W.P. @70°F (PSI)	W.P. @150°F (PSI)	3:1 BURST PRESSURE	PACKAGE WEIGHT (LBS)	
973341	4mm, 5/32	.093	.031	.250	200	85	600	.70	----
973343	.250	.156	.047	.476	180	70	540	1.50	----

**BLACK**



PART #	O.D. (IN)	I.D. (IN)	WALL THICKNESS (IN)	BEND RADIUS (IN)	W.P. @70°F (PSI)	W.P. @150°F (PSI)	3:1 BURST PRESSURE	PACKAGE WEIGHT (LBS)	
73341B	4mm, 5/32	.093	.031	.250	200	85	600	.70	----
73343B	.250	.156	.047	.476	180	70	540	1.50	----
73345B	.375	.250	.063	1.000	150	70	450	3.40	----

**BLUE**



PART #	O.D. (IN)	I.D. (IN)	WALL THICKNESS (IN)	BEND RADIUS (IN)	W.P. @70°F (PSI)	W.P. @150°F (PSI)	3:1 BURST PRESSURE	PACKAGE WEIGHT (LBS)	
73341U	4mm, 5/32	.093	.031	.250	200	85	600	.70	----
73343U	.250	.156	.047	.476	180	70	540	1.50	----
73345U	.375	.250	.063	1.000	150	70	450	3.40	----

**RED**



PART #	O.D. (IN)	I.D. (IN)	WALL THICKNESS (IN)	BEND RADIUS (IN)	W.P. @70°F (PSI)	W.P. @150°F (PSI)	3:1 BURST PRESSURE	PACKAGE WEIGHT (LBS)	
73341R	4mm, 5/32	.093	.031	.250	200	85	600	.70	----
73343R	.250	.156	.047	.476	180	70	540	1.50	----
73345R	.375	.250	.063	1.000	150	70	450	3.40	----
73346R	.562	.375	.093	1.142	140	60	420	5.60	----

**OD Sizes Available**

.125, .187, 1/4(1/8), 8mm(5/16)  
 .562, .625 and .750

Other sizes, Lengths and  
 Colors available

- Available in longer lengths upon request
- Other colors available



# POLYETHYLENE

## LINEAR LOW DENSITY POLYETHYLENE TUBING (LLDPE)

### Features

- Chemically Inert
- Chemical Resistant
- Lightweight & Flexible
- Good Dielectric Properties
- Impermeable to Gases
- Meets FDA Requirements
- Multiple Colors Available
- Vacuum rating to 28" Hg

Polyethylene is made from 100% non-toxic ingredients. It's inert nature and FDA compliant status makes it perfect for food, water and beverage piping. It is ideal for use in pneumatic, drain piping, lab use and chemical transfer applications which require an inexpensive tubing

Polyethylene is highly-resistant to stress cracking from chemicals, aging and ultraviolet exposure. For use with barb-type, push-to-connect or compression-style fittings.

### Specifications

Temperature Range: -50°F to +140°F  
Hardness: Shore A 93A  
Shore D 45D

### Applications

- |                      |                 |
|----------------------|-----------------|
| Food & Beverage      | Process Control |
| Pneumatic Tools      | Laboratories    |
| Pneumatic Piping     |                 |
| Electrical Jacketing |                 |
| Drain Lines          |                 |
| Instrumentation      |                 |
| Chemical Transfer    |                 |



100' LENGTH



500' LENGTH



1000' LENGTH

### 100' LENGTH - Natural

PART #	TUBE O.D.	TUBE ID	TUBE WALL	WORKING PRESSURE	
973200	1/8"	0.08	0.022	250	----
973203	1/4"	0.17	0.040	150	----
973204	1/4"	0.125	0.0625	350	----
973205	8mm/5/16"	0.236	0.038	150	----
973206	3/8"	0.25	0.0625	150	----
973207	1/2"	0.375	0.0625	125	----
973208	5/8"	0.50	0.0625	100	----

### 500' LENGTH

PART #	TUBE O.D.	TUBE ID	TUBE WALL	WORKING PRESSURE	
73200N5	1/8"	0.085	0.020	250	----
73203N5	1/4"	0.17	0.040	150	----
73204N5	1/4"	0.125	0.0625	350	----
73206N5	3/8"	0.25	0.0625	150	----
73207N5	1/2"	0.375	0.0625	125	----

### 1000' LENGTH

PART #	TUBE O.D.	TUBE ID	TUBE WALL	WORKING PRESSURE	
73203N1	1/4"	0.17	0.040	150	----
73206N1	3/8"	0.25	0.0625	150	----

# POLYETHYLENE

## TUBING

### LLDPE POLYETHYLENE TUBING - COLORS



#### BLACK

- 100'
- 500'
- 1000'

PART #	COLOR	LENGTH	NOMINAL O.D.	
73203B	Black	100'	1/4"	----
73204B	Black	100'	1/4"	----
73205B	Black	100'	5/16"	----
73206B	Black	100'	3/8"	----
73207B	Black	100'	1/2"	----
73208B	Black	100'	5/8"	----
73203B5	Black	500'	1/4"	----
73205B5	Black	500'	5/16"	----
73206B5	Black	500'	3/8"	----
73207B5	Black	500'	1/2"	----
73203B1	Black	1000'	1/4"	----
73206B1	Black	1000'	3/8"	----



#### BLUE

- 100'
- 500'
- 1000'

PART #	COL-OR	LENGTH	NOMI-NAL O.D.	
73203U	Blue	100'	1/4"	----
73206U	Blue	100'	3/8"	----
73207U	Blue	100'	1/2"	----
73203U5	Blue	500'	1/4"	----
73206U5	Blue	500'	3/8"	----
73203U1	Blue	1000'	1/4"	----

#### GREEN



- 100'
- 500'
- 1000'

PART #	COLOR	LENGTH	NOMI-NAL O.D.	
73203G	Green	100'	1/4"	----

#### RED



- 100'
- 500'
- 1000'

PART #	COL-OR	LENGTH	NOMI-NAL O.D.	
73203R	Red	100'	1/4"	----
73206R	Red	100'	3/8"	----
73203R5	Red	500'	1/4"	----
73206R5	Red	500'	3/8"	----
73203R1	Red	1000'	1/4"	----

I truly believe that everything that we do and everyone that we meet is put in our path for a purpose. There are no accidents; we're all teachers - if we're willing to pay attention to the lessons we learn, trust our positive instincts and not be afraid to take risks or wait for some miracle to come knocking at our door.

- Marla Gibbs

# NYLON 12 TUBING

Nylon 12 tubing is recognized as an industry standard for applications which require higher working pressures and higher heat and/or chemical resistance. It is ideal for outdoor use applications because of its superior stress crack resistance. Nylon 12 is strong, lightweight and has a very low moisture absorption rate compared to other nylons. By not absorbing moisture, Nylon 12 remains more flexible, which in turn extends it's service life. Nylon 12 tubing can be used with standard push-to-connect fittings and compression fittings for simple installation.

Because of it's semi-rigid properties, a thinner tube wall provides higher flow rates and working pressure.

**Features**

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat Resistant
- Chemical Resistant
- Heat/ Light Stabilized
- Black - UV Rated

**Specifications**

Temperature Range: -60°F to +200°F  
 Hardness: Rockwell 78 R  
 Shore D 70  
 Vacuum Rating: To 28" Hg  
 Higher Flow Rates & Working Pressure  
 Tolerances: 1/8"-1/4" +/- .004  
 3/4"-1/2" +/- .006

**Applications**

Pneumatic Tools      Chemical Transfer  
 Pneumatic Piping      Vacuum  
 Instrumentation      Process Control  
 Lube Lines      Fuel Lines  
 Coolants      Paint Supply Lines  
 Refrigeration      Laboratories

**Part #'s shown are for natural. 500' and 1000' reels available on request.**



100' LENGTH



BLACK TUBING & MISC.



METRIC LENGTH

**100' LENGTH**

PART #	TUBE O.D.	TUBE ID	TUBE WALL	WORKING PRESSURE	
973230	1/8"	0.08	.022	420	----
973231	5/32"	0.106	.025	350	----
973232	1/4"	0.18	.035	290	----
973238	1/4"	0.15	.05	800	----
973226	5/16"	0.236	.039	250	----
973233	3/8"	0.275	.050	250	----
973234	1/2"	0.375	.062	240	----

**BLACK TUBING & MISC.**

PART #	O.D.	TUBE ID	WALL	WORKING PRESSURE	
73230B	1/8	0.08	0.022	420	----
73231B	5/32	0.106	0.025	350	----
73232B	1/4	0.18	0.035	290	----
73238B	1/4	0.15	0.05	800	----
73233B	3/8	0.275	0.05	250	----
73232N5*	1/4	0.18	0.035	290	----
73238U**	1/4	0.15	0.075	800	----

• 500' Natural      \*\*Blue

\*METRIC LENGTH - 100 ft. coils      • available in natural color only

PART #	MM O.D.	MM I.D.	MM WALL	WORKING PRESSURE	
973323	4	2.7	0.65	350	----
973326	6	3.5	1.25	350	----
973325	6	4	1	340	----
973327	8	6	1	250	----
973329	10	8	1	225	----
973332	12	10	1	200	----
973334	14	11	1.5	175	----

# PVC TUBING AND TUBING CUTTERS

## TUBING

### PVC POLYVINYLCHLORIDE TUBING - NSF61



PVC is suited for general, low-pressure, industrial applications for the conveyance of liquids and solids of suitable granular size. Made from a PVC compound that complies with FDA regulations. Although it is primarily intended for applications where pressure is not essential, it will withstand the pressures shown.

The clear PVC Tubing provides good chemical resistance, is lightweight, flexible and economically priced.

#### Features

- Lightweight
- Flexible
- Food Grade
- Clear Color/ Blue tint

#### Specifications

Temperature Range: +25°F to +150°F  
 Hardness: Shore A 75 PVC  
 Meets FDA requirements  
 NSF 61 Certified  
 USP Class VI rated materials  
 RoHS Compliant

#### Applications

Beverage Dispensing      Distilled Water Transfer  
 Drain Tubing              Light Vacuum  
 Potable Water              Wire Harness  
 Laboratory Tubing        3:1 Burst Pressure  
 Wine Transfer  
 Low Pressure Air Line

**Colors Available: Clear**

**Package Lengths: 100'**

#### 100' LENGTH

PART #	TUBE I.D.	TUBE O.D.	TUBE WALL	WORKING PRESSURE	
973224	1/8 (.125)	1/4 (.25)	1/16 (.032)	50	----
973223	3/16 (.187)	5/16 (.313)	1/16 (.062)	55	----
973215	1/4 (.25)	3/8 (.375)	1/16 (.062)	55	----
973252	5/16 (.312)	7/16 (.438)	1/16 (.062)	50	----
973253	5/16 (.312)	1/2 (.500)	3/32 (.094)	55	----
973216	3/8 (.375)	1/2 (.500)	1/16 (.062)	45	----
973255	3/8 (.375)	5/8 (.625)	1/8 (.125)	55	----
973262	3/8 (.375)	9/16 (.563)	3/32 (.094)	50	----
973217	1/2 (.500)	5/8 (.625)	1/16 (.062)	30	----
973219	3/4 (.750)	1 (1.00)	1/8 (.125)	35	----
973221	1 (1.00)	1-1/4 (1.25)	1/8 (.125)	25	----

## TUBE CUTTERS

#### MINI-TUBING CUTTER

- Great for tight places



Part #	Size	
990571	3mm-22mm (1/8"-7/8")	----

#### TUBING CUTTER



PART #	SIZE	
990570	1/8"-1-1/8"	----

#### PLASTIC TUBE CUTTER

Range: 1/8" - 3/8" I.D. (3mm-10mm)



PART #	DESCRIPTION	
91707	Cutter w/Blade	----

#### MOUNTING RACKS



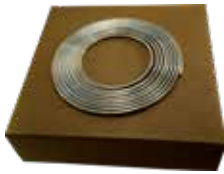
- Route and secure multiple tubing lines
- Mounting versatility
  - Racks can be easily hand separated down to single holders.
  - Thru holes provided (all sizes)
- Standard color is BLACK.
- Other colors available on special request.

**NOTE: MOUNTING SCREWS NOT PROVIDED**

PART #	TUBING OD	DESCRIP.	CHANNELS	
28988	1/4	non-adhesive	10	----
28989	1/4	adhesive	10	----
28990	3/8	non-adhesive	7	----
28991	1/2	non-adhesive	5	----

# ALUMINUM TUBING - EASY BEND

Alloy  
3003-0  
ASTM  
B-483



Material  
to ASTM  
B-483

900 PSI max  
3700 Burst PSI

Bend this tubing into the shape you need without special tools or elbow fittings. It is also known as Alloy 3003. Tubing has seamless construction, which provides a smooth interior and allows it to be flared without splitting. Use with water, air, alcohol and oil. Tubing meets ASTM B483 and has a soft (annealed) temper. OD tolerance is  $\pm 0.004$ "

## ALUMINUM VERSATUBE 50' COILS

PART #	O.D.	WALL THICK	ID	MAX PSI @ 100°F	CASE	50' COILS
972190	1/8	.025	.075"	2,300	10 coils	----
972191	3/16	.028	.132"	1,600	10 coils	----
972192	1/4	.032	.186"	1,400	10 coils	----
972193	5/16	.035	.243"	1,200	10 coils	----
972194	3/8	.035	.305"	1,000	10 coils	----
972195	1/2	.035	.43"	740	10 coils	----

# COPPER TUBING - REFRIGERATION TUBING

ASTMB280



- Temp range: 32° to 400°F
- Bend with a bending tool
- Use with copper solder-connect fittings

This copper Alloy 122 tube comes cleaned and capped to prevent moisture and dirt from contaminating the inside. It's often called refrigeration and air conditioning tubing. Use with water, natural gas, oil and R22 refrigerant. Tubing meets ASTM B280. It has seamless construction, which provides a smooth interior. Tubing has a soft (annealed) temper.

## REFRIGERATION COPPER TUBE 50' COILS

PART #	TUBE SIZE	OD	WALL	ID	MAX PSI @ 100°F	WEIGHT PER 50' COIL	50' COILS
972180	-	1/8	.030	.065"	3,000	1.74	----
972181	-	3/16	.030	.128"	1,900	2.88	----
972182	1/8	1/4	.030	.19"	1,400	4.02	----
972183	-	5/16	.032	.248"	1,100	5.45	----
972184	1/4	3/8	.032	.311"	980	6.70	----
972185	3/8	1/2	.032	.436"	720	9.10	----
972186	1/2	5/8	.035	.555"	610	12.55	----
972187	5/8	3/4	.035	.68'	510	15.25	----

## COPPER TUBING - DRINKING WATER

For residential water lines



- Temp range: 32° to 180°F
- Bend with a bending tool
- Use with copper solder-connect fittings

NSF 61 certified for drinking (potable) water, this copper Alloy 122 tubing is also called type L. Tubing meets ASTM B88. It has seamless construction, which provides a smooth interior. Coils - Have a soft (annealed) temper.

• Water service • Natural, liquified and petroleum gases • Fire protection • Solar • Fuel/ Fuel oil • HVAC • Snow melting - Air Brake

## TYPE L SOFT COPPER TUBING 60' COILS

PART #	TUBE SIZE	OD	WALL	ID	MAX PSI @ 100°F	WEIGHT PER 60' COIL	60' COILS
972171	1/4	3/8"	.03"	.315"	910	7.56	----
972172	3/8	1/2	.035"	.43"	770	11.88	----
972173	1/2	5/8"	.04"	.545"	720	17.10	----

WARNING: This product can expose you to chemicals, including Lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**HIGH PRESSURE SPRAYER**  
HIGH PRESSURE SPRAYER

**HIGH PRESSURE SPRAYERS**



**STRAIGHT THROUGH QDS**



**FITTINGS AND SWIVELS**



**NOZZLES**



**SPRAY GUNS AND WANDS**



**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# NOZZLES

## QUICK DISCONNECT NOZZLE

0-degree red tip nozzle, 15-degree yellow tip nozzle, 25-degree green tip nozzle, 40-degree white tip nozzle, and 65-degree black tip detergent nozzle. All nozzles are 4000 PSI and stainless steel, except for detergent nozzle, which is 600 PSI and brass. All Nozzles are rated for temperatures up to 300°F. Nozzles attach with 1/4" quick disconnect plug.



PART #	DEGREE OF SPRAY	GPM @ 4000PSI	
DX250030	0	3.0	----
DX251530	15	3.0	----
DX252530	25	3.0	----
DX254030	40	3.0	----
DX250040	0	4.0	----
DX251540	15	4.0	----
DX252540	25	4.0	----
DX254040	40	4.0	----
DX250050	0	5.0	----
DX251550	15	5.0	----
DX252550	25	5.0	----
DX254050	40	5.0	----
DX250060	0	6.0	----
DX251560	15	6.0	----
DX252560	25	6.0	----
DX254060	40	6.0	----
DX256500	65		----

## MEG NOZZLE

Available in 0-degree nozzle, 15-degree nozzle, 25-degree nozzle, or 40-degree nozzle. Nozzle sizes 3.0, 4.0, 5.0, 6.0 or 7.0. All nozzles are 7250 PSI 300°F, stainless steel and 1/4" male pipe thread.



PART #	DEGREE OF SPRAY	GPM @ 4000PSI	
DX140030MG	0	3.0	----
DX141530MG	15	3.0	----
DX142530MG	25	3.0	----
DX144030MG	40	3.0	----
DX140040MG	0	4.0	----
DX141540MG	15	4.0	----
DX142540MG	25	4.0	----
DX144040MG	40	4.0	----
DX140050MG	0	5.0	----
DX141550MG	15	5.0	----
DX142550MG	25	5.0	----
DX144050MG	40	5.0	----
DX140060MG	0	6.0	----
DX141560MG	15	6.0	----
DX142560MG	25	6.0	----
DX144060MG	40	6.0	----
DX140070MG	0	7.0	----
DX141570MG	15	7.0	----
DX142570MG	25	7.0	----
DX144070MG	40	7.0	----

## QUICK DISCONNECT NOZZLE 5-PIECE KIT

PART #	GPM @ 4000PSI	
DX259520	2.0	----
DX259530	3.0	----
DX259540	4.0	----
DX259550	5.0	----
DX259560	6.0	----
DX259570	7.0	----



**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**SWIVELS**

HIGH PRESSURE SPRAYER

**SWIVELS****RUBBER-TIP TURBO NOZZLE**

Rubber tip, rotating turbo nozzle, 1/4" NPT with steel male quick disconnect plug adaptor, rated for temperatures up to 300°F.



PART #	PSI	GPM @ 4000PSI	
DX722530	2500	3.0	----
DX722540	2500	4.0	----
DX722550	2500	5.0	----
DX722560	2500	6.0	----
DX723230	3200	3.0	----
DX723240	3200	4.0	----
DX723250	3200	5.0	----
DX723260	3200	6.0	----
DX724030	4000	3.0	----
DX724040	4000	4.0	----
DX724050	4000	5.0	----
DX724060	4000	6.0	----
DX725030	5000	3.0	----
DX725040	5000	4.0	----
DX725050	5000	5.0	----
DX725060	5000	6.0	----

**STAINLESS STEEL LIVE SWIVEL**

Mx F straight through live swivel, NBR or Viton seal, 416 SS, 10.6 gpm, 180F max, 3500 PSI



PART #	SEAL	SIZE	
DX60021	NBR	1/4"	----
DX60022	NBR	3/8"	----
DX60023	NBR	1/2"	----
DX60021V	Viton	1/4"	----
DX60022V	Viton	3/8"	----
DX60023V	Viton	1/2"	----

**THERMAL RELIEF VALVE**

140F Thermal Relief Valve, Brass, 300 PSI



PART #	SIZE	
DX35TR25	1/4"	----
DX35TR38	3/8"	----

**90° BOOM SWIVEL**

Male x Female 90° Boom swivel, Stainless Steel, 5000 PSI, 7GPM, 300°F



PART #	SIZE	
DX60092	3/8"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

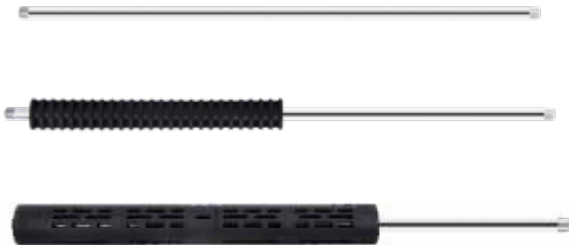
# SPRAY GUNS

HIGH PRESSURE SPRAYER

## SPRAYERS

### CHROMED STEEL WAND

1/4" MNPT x 1/4" Extension Wands, 10.5 GPM, 300F



PART #	SIZE	GRIP	
DX4324	24"	No Grip	----
DX4336	36"	No Grip	----
DX4424	24"	Molded Grip	----
DX4436	36"	Molded Grip	----
DX4524VG	24"	Vented Grip	----
DX4536VG	36"	Vented Grip	----

### SPRAY GUN

Rear entry spray gun, 4000 PSI, 7 GPM, 212F max, inlet 3/8", outlet 1/4"



PART #	PRESSURE	FLOW	TEMPERATURE	
DX5090	4000	7	212	----
DX5022	4000	6.6	300	----
DX5005	5075	10.5	300	----

### WEEPING SPRAY GUN

Rear entry spray gun, weeping, 5000 PSI, 10.5 GPM, 300F, , inlet 3/8", outlet 1/4"

Weep style spray guns allow for a continuous flow of water by way of a small hole in the bottom of the gun that produces a slight leak, or a weeping effect. This helps prevent lines freezing in cold weather or scalding water temperatures in hot weather that could damage the pumps.



PART #	
DX5006	----

### SPRAY GUN WITH EXTENSION\*

Rear entry spray gun with 12" extension, 4000psi, 7gpm, 300F max, inlet 3/8", outlet M22



PART #	
DX5190	----

### SPRAY GUN WITH EXTENSION\*

Rear entry spray gun with 12" extension, 5075psi, 10.5gpm, 300F max, inlet 3/8", outlet M22



PART #	
DX5197	----

\*Requires a 86-005 for MEG Nozzle and a 86-005 & 86-030 for QD Nozzle

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

HIGH PRESSURE SPRAYER

**COUPLERS/ PLUGS**

HIGH PRESSURE SPRAYER

**QUICK DISCONNECTS**

- Brass couplers have brass bodies and brass valves, 8 steel locking balls, Buna-N seal, and stainless steel springs
- Stainless steel couplers have stainless steel bodies, 8 stainless steel locking balls, Buna-N seal, and stainless steel springs
- Plugs are steel with green blue zinc plating or stainless steel
- Straight through design means there is no positive shut-off after disconnect
- Fully interchangeable with Parker, Hansen, Foster and Adams
- Use with liquids, hydraulic service, compressed air, gases, water and vacuum
- Ideal for applications such as high pressure water, steam washers, and carpet cleaners
- Max. Temp. 212°F for Couplers/ 300°F for Plugs • Max Flow: 10.5 GPM

## STRAIGHT THROUGH STYLE

**MALE BRASS COUPLERS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86030	1/4	1/4	4000	----
86031	3/8	3/8	4000	----
86032	1/2	1/2	4000	----

**FEMALE BRASS COUPLERS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86035	1/4	1/4	4000	----
86036	3/8	3/8	4000	----
86037	1/2	1/2	4000	----

**MALE STAINLESS STEEL COUPLERS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86030SS	1/4	1/4	6000	----
86031SS	3/8	3/8	6000	----

**FEMALE STAINLESS STEEL COUPLERS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86035SS	1/4	1/4	6000	----
86036SS	3/8	3/8	6000	----

**MALE STEEL PLUGS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86040	1/4	1/4	4000	----
86041	3/8	3/8	4000	----
86042	1/2	1/2	4000	----

**FEMALE STEEL PLUGS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86045	1/4	1/4	4000	----
86046	3/8	3/8	4000	----
86047	1/2	1/2	4000	----

**MALE STAINLESS STEEL PLUGS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86040SS	1/4	1/4	6000	----
86041SS	3/8	3/8	6000	----

**FEMALE STAINLESS STEEL PLUGS**

PART #	BODY SIZE	THREAD SIZE	PSI	
86045SS	1/4	1/4	6000	----
86046SS	3/8	3/8	6000	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# COUPLERS/ KNOBS

HIGH PRESSURE SPRAYER

## MOLDED GRIP MALE BRASS COUPLER



PART #	THREAD SIZE	THREAD SIZE	PSI	
86030RG	1/4	1/4	4000	----
86031RG	3/8	3/8	4000	----

## MOLDED GRIP FEMALE BRASS COUPLER



PART #	THREAD SIZE	PLUG	PSI	
86035RG	1/4	1/4	4000	----
86036RG	3/8	3/8	4000	----

## M22 SCREW TYPE X MNPT



PART #	THREAD SIZE	MALE	PSI	
86001	M22	1/4	4000	----
86002	M22	3/8	4000	----

## M22 SCREW TYPE X FNPT



PART #	THREAD SIZE	FEMALE SIZE	PSI	
86005	M22	1/4	4000	----
86006	M22	3/8	4000	----

## INSULATED KNOB

### M22 INSULATED KNOB X MNPT



PART #	THREAD SIZE	MALE SIZE	PSI	
86012	M22	1/4	4000	----
86013	M22	3/8	4000	----

### M22 INSULATED KNOB X FNPT



PART #	THREAD SIZE	FEMALE SIZE	PSI	
86017	M22	1/4	4000	----
86018	M22	3/8	4000	----

### M22 X M22 FNPT



PART #	THREAD SIZE	THREAD SIZE	PSI	
86022	M22	M22	4000	----

### M22 INSULATED KNOB X QC PLUG



PART #	THREAD SIZE	PLUG	PSI	
86020	M22	3/8	4000	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)





# PNEUMATICS

PNEUMATICS

## PNEUMATICS



### QUICK DISCONNECTS



- Universal
- ARO 210
- Lincoln
- Industrial
- Automotive
- ST Series - High Flow

### BREATHER VENTS, MUFFLERS



- Mufflers
- Snubbers
- In-line filters
- Breather vents
- Control valves
- Manifolds

### PNEUMATIC ACCESSORIES



- Kits NEW
- Tire gauge
- Tank and vent valves
- Blow guns
- Air chucks
- Inflators

### GAUGES



- Liquid filled & Dry
- Lower mount & center mount
- Water test
- Syphons

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# INDUSTRIAL INTERCHANGE

- Couplers are brass or plated steel body with brass or steel valves, 6 steel locking balls, NBR seal and stainless steel springs

6 Steel locking balls (1/2" body size has 8 steel locking balls)

- Plugs are brass or steel with green blue zinc plating
- Industry standard design for compressed air, water, grease, paint, limited vacuum and limited gases
- Manual retract for connecting and disconnecting
- Maximum working pressure is 250 PSI

## BRASS FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28540	1/4"	1/4"	----
28541	1/4"	3/8"	----

## BRASS MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28552	1/4"	1/4"	----
28553	1/4"	3/8"	----

## STEEL FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28540S	1/4"	1/4"	----
28541S	1/4"	3/8"	----
98810	3/8"	1/4"	----
98811	3/8"	3/8"	----
98812	3/8"	1/2"	----
99812	1/2"	1/2"	----

## STEEL MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28552S	1/4"	1/4"	----
28553S	1/4"	3/8"	----
98823	3/8"	1/4"	----
98824	3/8"	3/8"	----
98825	3/8"	1/2"	----
99825	1/2"	1/2"	----
99826	1/2"	3/4"	----

## BRASS HOSE ID COUPLER



PART#	BODY SIZE	BARB SIZE	
28562	1/4"	1/4"	----
28564	1/4"	3/8"	----

## STEEL HOSE ID COUPLER



PART#	BODY SIZE	BARB SIZE	
28562S	1/4"	1/4"	----
28564S	1/4"	3/8"	----
98840	3/8"	1/4"	----
98841	3/8"	3/8"	----
99841	1/2"	3/8"	----
99843	1/2"	1/2"	----

## BRASS PUSH-ON HOSE COUPLER



PART#	BODY SIZE	BARB SIZE	
28565	1/4"	1/4"	----
28566	1/4"	3/8"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**INDUSTRIAL**  
PNEUMATICS

**STEEL PUSH-ON HOSE COUPLER**



PART#	BODY SIZE	BARB SIZE	
28565S	1/4"	1/4"	----
28566S	1/4"	3/8"	----
98842	3/8"	3/8"	----

**STEEL MALE PLUG**



PART#	BODY SIZE	THREAD SIZE	
28545	1/4"	1/8"	----
28546	1/4"	1/4"	----
28547	1/4"	3/8"	----
98814	3/8"	1/4"	----
98815	3/8"	3/8"	----
99816	1/2"	1/2"	----
99817	1/2"	3/4"	----

**STEEL FEMALE PLUG**



PART#	BODY SIZE	THREAD SIZE	
28533	1/4"	1/8"	----
28534	1/4"	1/4"	----
28535	1/4"	3/8"	----
98801	3/8"	1/4"	----
98802	3/8"	3/8"	----
99803	1/2"	1/2"	----
99804	1/2"	3/4"	----

**BRASS MALE PLUG**



PART#	BODY SIZE	THREAD SIZE	
28546B	1/4"	1/4"	----

**BRASS FEMALE PLUG**



PART#	BODY SIZE	THREAD SIZE	
28534B	1/4"	1/4"	----

**STEEL HOSE ID PLUG**



PART#	BODY SIZE	BARB SIZE	
28557	1/4"	1/4"	----
28559	1/4"	3/8"	----
98828	3/8"	3/8"	----
99828	1/2"	3/8"	----
99830	1/2"	1/2"	----

**STEEL PUSH-ON HOSE PLUG**



PART#	BODY SIZE	BARB SIZE	
28558	1/4"	1/4"	----
28561	1/4"	3/8"	----
98830	3/8"	3/8"	----

**STEEL SWIVEL MALE PLUG**



PART#	BODY SIZE	THREAD SIZE	
320065	1/4"	1/4"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# UNIVERSAL SERIES COUPLERS

- Automatic Coupler means flow will cut off automatically at time of disconnect
- Brass Couplers have brass body and brass sleeve with brass valve, 6 steel locking balls, NBR seal and 6 stainless steel springs.
- Stainless Steel Couplers have stainless steel body and stainless steel sleeve with stainless steel valve, 6 steel locking balls, FKM seal, and stainless steel springs
- Coupler compatible with ARO 210, Parker Interchange and Industrial Interchange plugs
- Maximum working pressure is 250 PSI

## BRASS MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28579	1/4"	1/4"	----
28589	1/4"	3/8"	----

## BRASS FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28560	1/4"	1/4"	----

## BRASS HOSE ID COUPLER



PART#	BODY SIZE	BARB SIZE	
28690	1/4"	1/4"	----
28691	1/4"	3/8"	----

## STAINLESS STEEL MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28579SS	1/4"	1/4"	----

## STAINLESS STEEL FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28560SS	1/4"	1/4"	----

## STAINLESS STEEL INDUSTRIAL MALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28546SS	1/4"	1/4"	----

## STAINLESS STEEL INDUSTRIAL FEMALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28534SS	1/4"	1/4"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# ARO 210 INTERCHANGE

PNEUMATICS

## ARO 210 INTERCHANGE

- Couplers have brass bodies and brass valves, 6 steel locking balls, NBR seal, and stainless steel springs
- Plugs are steel with green blue zinc plating
- Couplers have a full opening tubular valve for maximum flow and a built-in sleeve guard to minimize accidental disconnect
- Maximum working pressure is 250 PSI

### MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28592	1/4"	1/8"	----
28593	1/4"	1/4"	----
28594	1/4"	3/8"	----

### FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28583	1/4"	1/8"	----
28584	1/4"	1/4"	----
28585	1/4"	3/8"	----

### HOSE ID COUPLER



PART#	BODY SIZE	BARB SIZE	
28601	1/4"	1/4"	----
28603	1/4"	3/8"	----

### MALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28586	1/4"	1/8"	----
28587	1/4"	1/4"	----

### FEMALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28578	1/4"	1/4"	----

### HOSE ID PLUG



PART#	BODY SIZE	BARB SIZE	
28595	1/4"	1/4"	----
28597	1/4"	3/8"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# AUTOMOTIVE/ PARKER INTERCHANGE

## PNEUMATICS

### AUTOMOTIVE/ PARKER INTERCHANGE (TRU-FLATE)

- Brass couplers are brass bodies with brass valves, 6 steel locking balls, NBR seal, and stainless steel springs. Steel couplers are steel bodies with steel valves, 6 stainless steel locking balls, NBR seal, and stainless steel springs.
- Plugs are brass or steel with green blue zinc plating
- Unique design has been field proven as a long-lasting, high performance coupling especially when used with pneumatic tools
- Maximum working pressure is 300 PSI

#### BRASS MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28515	1/4"	1/8"	----
28516	1/4"	1/4"	----
28517	1/4"	3/8"	----

#### BRASS FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28507	1/4"	1/4"	----
28508	1/4"	3/8"	----

#### STEEL MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28516S	1/4"	1/4"	----
28514S	3/8"	1/4"	----
28519S	3/8"	3/8"	----

#### STEEL FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28507S	1/4"	1/4"	----
28525S	3/8"	1/4"	----
28526S	3/8"	3/8"	----

#### BRASS MALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28510B	1/4"	1/4"	----

#### BRASS FEMALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28501B	1/4"	1/4"	----

#### STEEL MALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28509	1/4"	1/8"	----
28510	1/4"	1/4"	----
28511	1/4"	3/8"	----
28512	3/8"	1/4"	----
28513	3/8"	3/8"	----

#### STEEL FEMALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28500	1/4"	1/8"	----
28501	1/4"	1/4"	----
28502	1/4"	3/8"	----
28503	3/8"	1/4"	----
28504	3/8"	3/8"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# AUTOMOTIVE/ PARKER INTERCHANGE

## PNEUMATICS

### HOSE ID COUPLER



PART#	BODY SIZE	BARB SIZE	
28528	1/4"	1/4"	----
28530	1/4"	3/8"	----
28536	3/8"	1/4"	----

### HOSE ID PLUG



PART#	BODY SIZE	BARB SIZE	
28518	1/4"	1/4"	----
28520	1/4"	3/8"	----
28523	3/8"	1/4"	----
28524	3/8"	3/8"	----

### PUSH-ON HOSE COUPLER



PART#	BODY SIZE	BARB SIZE	
28531	1/4"	1/4"	----
28532	1/4"	3/8"	----

### PUSH-ON HOSE PLUG



PART#	BODY SIZE	BARB SIZE	
28521	1/4"	1/4"	----
28522	1/4"	3/8"	----

# LINCOLN INTERCHANGE

- Couplers have brass bodies with steel sleeves, Acetal valves, 6 steel locking balls, Nitrile seal and stainless steel springs
- Plugs are steel with green blue zinc plating
- Manual style
- Unique design includes long nose and short ball groove
- Maximum working pressure is 250 PSI

### MALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28683	1/4"	1/4"	----

### STEEL MALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28685	1/4"	1/8"	----
28686	1/4"	1/4"	----

### FEMALE COUPLER



PART#	BODY SIZE	THREAD SIZE	
28684	1/4"	1/4"	----

### STEEL FEMALE PLUG



PART#	BODY SIZE	THREAD SIZE	
28687	1/4"	1/4"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# COUPLERS

## PNEUMATICS

### ST SERIES...HIGH FLOW

#### SPECIFICATIONS

Brass - Coupler & Steel Plug	
Temperature Range	-40° to 250°

- Non-valved couplings for applications where maximum flow is required. Ideal for applications such as high pressure water and steam washers, carpet cleaners and mold coolant lines. They are often used in food processing, on fluid and dye transfer lines.
- Standard seals are Buna-N (Nitrile).

#### MALE PIPE COUPLER

BRASS



PART #	BODY & THREAD SIZE	
28667	1/8"	----
28665	1/4"	----
28666	3/8"	----
28668	1/2"	----
28669	3/4"	----
28670	1"	----

#### FEMALE PIPE COUPLER

BRASS



PART #	BODY & THREAD SIZE	
28671	1/8"	----
28651	1/4"	----
28652	3/8"	----
28672	1/2"	----
28673	3/4"	----

#### MALE PLUG

STEEL



PART #	SIZE	
28675	1/8"	----
28639	1/4"	----
28640	3/8"	----
28676	1/2"	----
28677	3/4"	----

#### FEMALE PLUG

STEEL



PART #	SIZE	
28688	1/8"	----
28619	1/4"	----
28620	3/8"	----
28679	1/2"	----
28680	3/4"	----
28681	1"	----

### MOLD COOLANT-LINE QUICK COUPLERS

#### OPERATING PRESSURE:

200 PSIG (14.06 Kg/sq. cm)

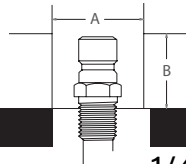
Standard Seal:

SILICONE: -90°F to 400°F (-68°C to +205°C)

- Our coolant couplers are engineered for optimum speed and performance in connecting coolant lines to molds used for thermoplastic, thermosetting, blow molding, diecasting and on other types of tooling and equipment utilizing a constant fluid flow pumped through cooling channels.



MALE PLUG (BRASS)



FEMALE PLUG (STEEL)

#### 1/4" BASIC SIZE

PART #	SIZE	A	B	
29900	1/8"	0.69	0.69	----
29901	1/4"	0.84	0.94	----
29902	3/8"	1.00	0.97	----

#### 1/4" BASIC SIZE

PART #	SIZE	
29903	1/8"	----
29904	1/4"	----
29905	3/8"	----

#### 3/8" BASIC SIZE

PART #	SIZE	A	B	
29906	1/4"	1.00	0.94	----
29907	3/8"	1.00	1.13	----
29908	1/2"	1.81	1.25	----

#### 3/8" BASIC SIZE

PART #	SIZE	
29909	1/4"	----
29910	3/8"	----

#### 1/2" BASIC SIZE

PART #	SIZE	A	B	
29911	1/2"	1.25	1.50	----
29912	3/4"	1.50	1.56	----

#### 1/2" BASIC SIZE

PART #	SIZE	
29913	1/2"	----
29914	3/4"	----

### MINI TYPE QUICK DISCONNECTS

#### MALE COUPLER



PART #	SIZE	
28605	1/8"	----

#### FEMALE PLUG



PART #	SIZE	
28608	1/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MUFFLERS/ VENTS

## PNEUMATICS

### BRASS MUFFLERS

Materials:  
 Body: Brass  
 Element: Sintered Bronze  
 Max Operating Pressure: 300PSI  
 Temperature: 35° to 300°F  
 • Application: Designed to diffuse Air & Muffler noise to acceptable levels within OSHA noise requirements.  
 • Used on exhaust ports, valves, cylinders and air tools.  
 • Construction: Porous sintered bronze 40 micron filter element secured to a brass body



PART #	SIZE	
300020	10/32"	----
300021	1/8"	----
300022	1/4"	----
300023	3/8"	----
300024	1/2"	----
300026	3/4"	----
300028	1"	----

40 Micron element

### STAINLESS MUFFLERS



Materials:  
 Body: 303 Grade Stainless Steel  
 Element: 316 Grade Stainless Steel  
 Max Operating Pressure: 300PSI  
 Temperature: 35° to 392°F

PART #	SIZE	
300031	10/32"	----
300032	1/8"	----
300033	1/4"	----
300034	3/8"	----
300035	1/2"	----
300036	3/4"	----
300037	1"	----

### BRASS BREATHER VENT

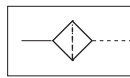


Materials:  
 Body: Brass  
 Element: Sintered Bronze  
 Max Operating Pressure: 150PSI  
 Temperature: 35° to 300°F  
 • Application: Prevents Dirt and Foreign Particles from Entering Ports Open to Atmosphere. Typically used on Acting Cylinders  
 • Additional Use is Vacuum Relief or Pressure Equalization on Storage Vessels or Tanks  
 • Construction: Porous Sintered Bronzed 40 Micron Filter Element Secured to a brass body

PART #	SIZE	
300000	10-32"	----
300001	1/8"	----
300002	1/4"	----
300003	3/8"	----
300004	1/2"	----
300006	3/4"	----
300008	1"	----

40 Micron element

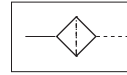
### STAINLESS BREATHER VENT



Materials:  
 Body: 303 Grade Stainless Steel  
 Element: 316 Grade Stainless Steel  
 Max Operating Pressure: 150PSI  
 Temperature: 35° to 390°F

PART #	SIZE	
300014	1/8"	----
300015	1/4"	----
300017	3/8"	----
300018	1/2"	----
300019	3/4"	----
300007	1"	----

### PRESSURE SNUBBER

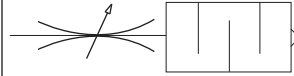


Materials:  
 Body: Brass  
 Element: Sintered Bronze  
 Max Operating Pressure: 9000PSI  
 Temperature: 35° to 300°F  
 • Applications: Protect pressure instruments from sudden pressure surges and fluctuations providing more accurate gauge readings  
 • Construction: Solid brass housing with porous bronze element  
 • Can be used for mini in-line filters  
 • 5 different porosity elements per package, allows each user to adjust snubbing capacity for the specific application

PART #	SIZE	POROSITY	
28354	1/4"	40 um	----
28353	1/4"	30 um	----
28352	1/4"	25 um	----
28351	1/4"	20 um	----
28350	1/4"	10 um	----

Recommended Element Porosity Rating		
Rating	Color	Recommended Application
40 um	None	Viscous Fluids (over 500 ssu)

### SPEED CONTROL VALVE



Materials:  
 Body: Brass  
 Element: 40 Micron Sintered Bronze  
 Max Operating Pressure: 300PSI  
 Temperature: 35° to 300°F  
 • Application: Provide infinite variation of metering air flow at acceptable sound levels on air valve exhaust ports with complete safety  
 • The speed of an operating cylinder or air tool may be increased or decreased with the adjusting screw, the final position is locked in place by a lock nut  
 • Objectionable exhaust air noise is eliminated by the surrounding sleeve - 40 um sintered bronze  
 • Brass Body  
 • Max operating pressure: 300PSI  
 • Operating temperature: 35° F to 300° F

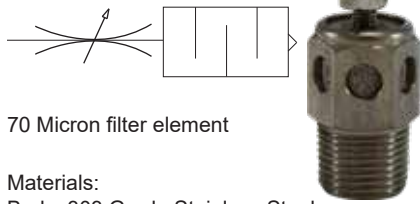
PART #	SIZE	
940800	1/8"	----
940801	1/4"	----
940803	3/8"	----
940804	1/2"	----
940805	3/4"	----
940806	1"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

# VALVES/ MUFFLERS/ FILTERS

## PNEUMATICS

### STAINLESS SPEED CONTROL VALVE

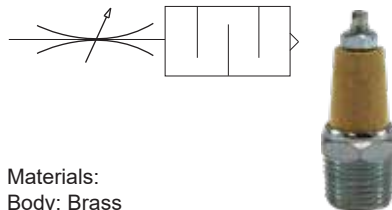


70 Micron filter element

Materials:  
Body: 303 Grade Stainless Steel  
Element: 316 Grade Stainless Steel  
Max Operating Pressure: 300PSI  
Temperature: 35° to 392°F

PART #	SIZE	
940810	1/8"	----
940811	1/4"	----
940812	3/8"	----
940813	1/2"	----
940814	3/4"	----
940815	1"	----

### MUFFLER W/ FLOW ADJUSTMENT



Materials:  
Body: Brass  
Element: Sintered Bronze  
Max Operating Pressure: 300PSI  
Temperature: 35° to 300°F

PART #	SIZE	
28379	1/8"	----
28380	1/4"	----
28381	3/8"	----
28382	1/2"	----

### HIGH FLOW ALUMINUM MUFFLER

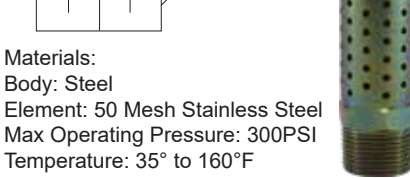
• hole pattern



Materials:  
Body: Aluminum  
Element: 50 Mesh Stainless Steel  
Max Operating Pressure: 300PSI  
Temperature: 35° to 160°F

PART #	SIZE	
940822	1/8"	----
940823	1/4"	----
940824	3/8"	----
940825	1/2"	----
940826	3/4"	----
940827	1"	----

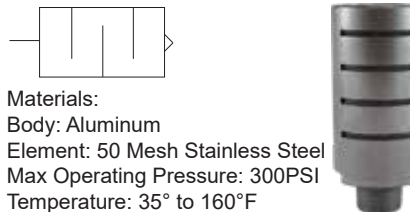
### HIGH FLOW STEEL MUFFLER



Materials:  
Body: Steel  
Element: 50 Mesh Stainless Steel  
Max Operating Pressure: 300PSI  
Temperature: 35° to 160°F

PART #	SIZE	
28373	1/8"	----
28374	1/4"	----
28375	3/8"	----
28376	1/2"	----
28377	3/4"	----
28378	1"	----

### ALUMINUM HIGH FLOW MUFFLER



Materials:  
Body: Aluminum  
Element: 50 Mesh Stainless Steel  
Max Operating Pressure: 300PSI  
Temperature: 35° to 160°F

- Slit pattern
- Application: Used exhaust ports of Pneumatic valves or manifolds to reduce work area noise
- Construction: Aluminum body, 50 mesh self cleaning stainless steel screen corrosion resistant aluminum shell
- High flow & minimal back pressure

PART #	SIZE	
28367	1/8"	----
28368	1/4"	----
28369	3/8"	----
28370	1/2"	----
28371	3/4"	----
28372	1"	----

### PLASTIC HIGH FLOW MUFFLER



Materials:  
Body: Black Nylon  
Element: 50 Mesh Stainless Steel  
Max Operating Pressure: 150PSI  
Temperature: 35° to 120°F

PART #	SIZE	
28363	1/8"	----
28364	1/4"	----
28365	3/8"	----
28366	1/2"	----

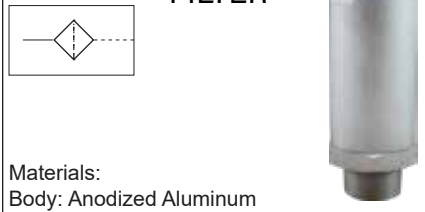
### NIPPLE INLINE FILTER



Materials:  
Body: Brass  
Element: 40 Micron Sintered Bronze  
Max Operating Pressure: 300PSI  
Temperature: 35° to 300°F

PART #	SIZE	
940845	1/8"	----
940846	1/4"	----
940847	3/8"	----
940848	1/2"	----

### REPAIRABLE AIR/ OIL INLINE FILTER



Materials:  
Body: Anodized Aluminum  
Element: 40 Micron Sintered Bronze  
Max Operating Pressure: 300PSI  
Temperature: 35° to 200°F

- Application: Protect small air tools i.e. impact wrench grinders, screwdrivers and low pressure hydraulic applications
- Construction: All anodized, lightweight aluminum housing
- Can be installed directly before the air tool
- Features cleanable or replaceable 40 micron filter element

PART #	SIZE	
940840	1/8"	----
940841	1/4"	----
940842	3/8"	----
940843	1/2"	----
940844	3/4"	----

What you feel inside  
reflects on your face. So  
be happy and positive all  
the time.

- Sridevi

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# MANIFOLDS AND AIR REGULATORS

PNEUMATICS

## MANIFOLDS

### CHROME PLATED BRASS MANIFOLDS

- 1/4" inlet and outlets

PART #	DESCRIPTION	
28444	2 Port	----
28445	3 Port	----
28446	4 Port	----

- 1/4" Inlet on each end



### MANIFOLDS - ALUMINUM WITH BLACK ANODIZING

Materials:

Aluminum with black anodizing for corrosion resistance.

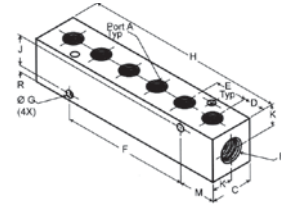
Specifications:

Max Operating Pressure: 1000PSI

Temperature: -10° to 200°F

Media: Air and liquids compatible with materials of construction.

- Ports column = # of ports in top of manifold



### THREADED PORTS

Part #	Ports		A - out NPT	B - in NPT	C	D	E	F	G	H	J	K	M	R
28450	4	----						1.5		3.25				
28452	6	----	1/8"	1/4"	1.00	0.50	0.75	3.00	0.17	4.75	0.70	0.50	0.88	0.15
28456	10	----						6.00		7.75				
28457	2	----												
28458	3	----						0.88		3.00				
28460	5	----						2.63		4.75				
28464	9	----	1/4"	3/8"	1.25	0.63	0.88	6.13	0.20	8.25	0.89	0.63	1.06	0.18
28465	10	----						7.00		9.13				
28467	3	----						1.13		4.25				
28468	4	----						2.25		5.38				
28469	5	----	3/8"	3/8"	1.25	1.00	1.13	3.38	0.20	6.50	0.89	0.63	1.56	0.18
28470	6	----						4.50		7.63				

### 3 IN 1 ALUMINUM AIR MANIFOLD

No need to connect and disconnect every time you want to change tools. Supply 3 air tools from one outlet. These manifolds have one inlet with three 1/4 outlets.



PART #	SIZE	
320120	1/4" Inlet	----
320121	3/8" Inlet	----
320122	1/2" Inlet	----
three 1/4" Outlets		

### AIR REGULATOR

- Rated for Inlet Pressure up to 140PSI(10bar).
- Ambient and Fluid Temperature:5~60°C(41~140°F)
- Port Threads:NPT
- Flow Capacity:See Below,at 0.7Mpa Inlet Pressure and set at 0.5Mpa.
- Assembly Bracket is included.



PART #	SIZE	GAUGE PORT	REGULATING RANGE	
AR2	1/4"	1/8	0.05~0.85Mpa(0.5~8.5kgf/cm2)(7.25psi~123psi)	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## SAFETY VALVES

### ASME CODED

- Valves are manufactured to ASME standards and certified by the national board of boiler and pressure vessel inspectors.
- Bubble tight to 10% of set pop-off pressure.
- ASME safety valves are interchangeable with all other ASME valves of same size and pressure.
- Brass construction. Marked ASME, NB
- 1/ Blister card.



PART #	MALE NPT	POP-OFF PRESSURE	AIR FLOW	
87001	1/4"	70 PSI	70 CFM	----
87002	1/4"	125 PSI	120 CFM	----
87003	1/4"	150 PSI	140 CFM	----
87004	1/4"	200 PSI	170 CFM	----

Note: Valve resets after pressure drops 50%

### NON-CODED SAFETY RELIEF VALVES

- Non-coded safety valves are constructed of the same materials as the AMSE safety valves but are not national board certified and cannot be used on applications requiring ASME components.
- Valves are equipped with a lift ring for instant relief and are staked at the factory at the pre set pop-off pressure.
- Marked ASME, UV, NB



PART #	MALE NPT	POP-OFF PRESSURE	
87008	1/4"	125 PSI	----
87009	1/4"	150 PSI	----

Warning: These valves are not to be used on compressors with a capacity over 15 CFM or 3 HP or 12 gallon storage tank.

### COMPRESSOR TANK CHECK VALVES

- Used in compressor tanks to prevent air volume and pressure from escaping back into compressor heads while the compressor is not operating.
- Brass body with Teflon poppet.
- 1/8" Female NPT side port for pressure switch application.
- Maximum working pressure: 450 PSI
- Maximum temperature: 400°F



PART #	TANK BUNG HOLE SIZE	COMPRESSOR AIR LINE SIZE	SCFM	
87020	1/2" NPT Male	3/8" Tube Compression male	20	----
87021	1/2" NPT Male	1/2" Tube Compression male	20	----



87023	1/2" NPT Male	1/2" NPT Female	20	----
-------	---------------	-----------------	----	------

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# PNEUMATICS

PNEUMATICS

## TANK VALVES

### MULTI-PURPOSE AIR VENT



PART #	SIZE	
46048	1/8"	----
46048S*	1/8" SS	----
#303 SS		705

### BRASS BICYCLE PUMP FITTING

Screw on swivel chuck for most hand operated tire pumps.  
Buna-N-Seal • Deflator



INT x 3/16 Barb

PART #	SIZE	
32782	3/16"	----

### INFLATOR



INT x 3/16

PART #	SIZE	
32783	3/16"	----

### PNEUMATIC SLIDE VALVE

- Max Operating Pressure: 200 psig
- Temperatures: -20°F to +200°F

Manually operated slide valves provide simple on/off airflow control. They can be mounted horizontally, vertically or at any angle.

Open Position



### MALE X FEMALE

PART #	SIZE	L	HEX	
20780	1/8"	2.15	9/16"	----

INT = Inflation needle thread .305 in. OD x 32 threads per inch (see page 371)

### TANK & VENT VALVES

Three standard styles of valve bodies, complete with short core, for air lifts, water pumps, vacuum, pressurized containers, air jacks, and other pneumatic devices.

REGULAR: 300 PSI and cracking pressure 80 PSI

#### 1/8" NPT - .9" LONG SPRING CORE

7/16" Hex

1/8 x INT



PART #	SIZE	
46620	1/8	----

#### 1/8" NPT 1.207" LONG SPRING CORE

7/16" Hex

1/8 x INT



PART #	SIZE	
46621	1/8	----

#### 1/4" NPT 1.46" LONG SPRING CORE

9/16" Hex

w/ Black cap

1/4 x INT



PART #	SIZE	
46622	1/4	----

### TANK VALVE ACCESSORIES

#### BLACK PLASTIC CAP

No gasket



Inflation  
needle threads

PART #		
46630		----

#### SHORT NICKEL PLATED DOME CAP

Dome skirted type



Inflation  
needle thread

PART #		
46631		----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# BLOW GUNS/ NOZZLES

## PNEUMATICS

### COMPACT BLOW GUN W/RUBBER TIP

- Includes One Rubber Tip and One Safety Tip
- Zinc Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA requirement
- Maximum 87 dba
- 1/8" Outlet



PART #	SIZE	
320053	1/4"	----

### SAFETY BLOW GUN

- Heavy-Duty Design
- Internal Safety Valve that Limits Air Pressure to Less than 30 psi When dead-ended per OSHA
- Aluminium Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA Requirement
- Maximum 87 dba
- 1/8" Outlet



PART #	SIZE	
320054	1/4"	----

### SAFETY BLOW GUN

- N/P steel handle with plastic sleeve
- Brass Valve
- Zinc body
- Aluminum nozzle



90 PSI

1/8" Outlet

PART #	SIZE	
320050	1/4" Inlet	----

5114 51-124 401 20430AD S148 D204-30 6475

### COMPACT BLOW GUN

- With standard tip and safety tip
- Zinc Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA Requirement
- Maximum 87 dba



PART #	SIZE	
320055	1/4"	----

### PISTOL GRIP BLOW GUN

- Lightweight, Ergonomic Design
- Delrin® Body
- Trigger Air Flow Control
- 1/4" FPT Inlet
- 3" Nozzle Ideal for Tight Spaces
- Recommended Working Pressure 90-120 psi
- Maximum 87 DbA



PART #	SIZE	
320036	1/4"	----

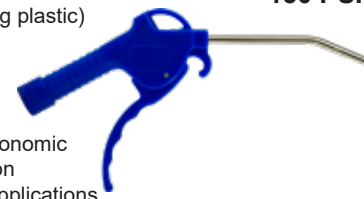
### PISTOL GRIP BLO-GUN

#### Material

- Body: POM (engineering plastic)
- Nozzle: nickel plated carbon steel
- Blue Handle Color

#### Features

- Simple construction, economic
- Global thread connection
- Durable and versatile applications
- 4 inch nozzle



150 PSI

PART #	SIZE	
320035	1/4"	----

### RUBBER TIPPED NOZZLE



MAKES POSITIVE SEAL BETWEEN GUN AND FUEL LINE OR OTHER OPENINGS. USE ONLY ON AIR

PART #	THREAD SIZE	
320070	1/8 - 27	----

51-521 2058 D201RT 411R

### HIGH FLOW SAFETY NOZZLE



MEETS OSHA REGULATIONS OF 30 PSI MAXIMUM OUTLET PRESSURE WHEN LINE PRESSURE IS 150 PSI OR LESS. HAS AN AIR PRESSURE BYPASS WHICH PREVENTS BUILD UP OF TIP PRESSURE EVEN IF NOZZLE IS BLOCKED. ADAPTS TO ANY BLOW GUN WITH A 1/8" NPT NOZZLE PORT

PART #	SIZE	
320075	1/8 MIP x Female Needle Thread	----

51-338 SST10 411BT 2056

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# TIRE GAUGES

PNEUMATICS

## TIRE GAUGES

### M - TIRE GAUGE

320-021



### HEAVY DUTY DUAL FOOT TIRE GAUGE

320-022



### DUAL ANGLE FOOT TRUCK PENCIL GAUGE

320-023



PART #	PRESSURE RANGE	INCREMENT	HEAD	BODY	BAR(Psi/KPA)	
320021	20-120psi	2 psi	Metal	Metal	4 sided plastic	----
320022	10-120psi	2 psi	Plastic	Metal	4 sided plastic	----
320023	20-120psi	2 psi	Metal	Metal	4 sided plastic	----

### INFLATION NEEDLE



• See thread note below

PART #	
320095	----

### 1 PIECE BLOW GUN TAPERED NOZZLE



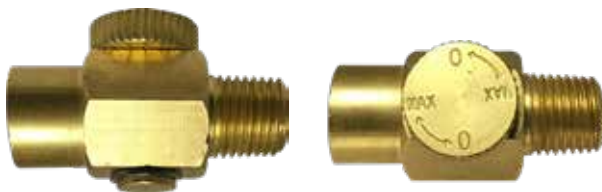
PART #	SIZE	
320076	NT	----

### 1 PIECE BLOW GUN STANDARD NOZZLE



PART #	SIZE	
320077		----

### VOLUME REGULATOR



PART #	FIP X MIP	
46615	1/4	----

**What size thread is an inflation needle (INT)?**

**Metric:** 7.7mm OD, thread root diameter is 6.9mm x 0.794 pitch  
**English:** 0.305 OD, threadroot diameter 0.302 in x 32 tpi (threads per inch)

### 1 PIECE DIAL TIRE GAUGE



PART #	
320410	----

### 1 PIECE EXTENSION



PART #	SIZE	
320080	NT	----

### 1 PIECE BLOW GUN ADAPTER



PART #	SIZE	
320078	Female NT x 1/8 MPT	----

### NYLON COIL AIR HOSE

- 200 psi working pressure
- 4:1 Safety factor (burst vs working pressure)
- Spring end sleeves to prevent kinking
- 1/4 MPT Brass fittings on both ends
- Temperature range 32°F to 120°F
- Packaged for retail sale



PART #	DESCRIPTION	SIZE	
307030	25'	1/4" NPT	----
307031	50'	1/4" NPT	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FOOT CHUCKS

## HEX BALL FOOT CHUCK



PART #		
46600	1/4 FPT Live Air	----

## MALE BALL FOOT CHUCK



PART #		
46605	1/4 MIP Live Air	----

## BALL FOOT CHUCK W/ 1/4 ID HOSE BARB



PART #		
46607	1/4 ID Live Air	----

## DUAL HEAD STRAIGHT AIR CHUCK



DUAL HEAD AIR CHUCK 1/4"FNPT,THE LENGTH IS 6.08",THE HEAD IS ZINC-ALLOY,AND THE NUT IS BRASS WITH CHROME PLATED.

PART #		
320000	1/4	----

## DUAL HEAD ANGLE FOOT AIR CHUCK



DUAL HEAD STRAIGHT FOOT AIR CHUCK 1/4"FNPT FOR INNER DUALS;BOTH ENDS LOCK ON VALVE CORE THREADS,THE LENGTH IS 6.66",THE HEAD IS ZINC-ALLOY,AND THE NUT IS

PART #		
320005	1/4	----

## INFLATORS WITH GAUGE

### INFLATOR/ GAUGE

- RUGGED ZINC CAST BODY WITH BRASS INTERNALS FOR LONG LIFE
- SOLID BRASS GAUGE BAR
- BUILT-IN AIR RELIEF VALVE



320-010

### INFLATOR/ GAUGE

- RUGGED ZINC CAST BODY WITH BRASS INTERNALS FOR LONG LIFE
- EASY TO VIEW BUILT-IN SIGHT GAUGE
- FULL SWIVEL HOSE FITTINGS
- PROTECTIVE RUBBER BUMPER
- BUILT-IN AIR RELIEF VALVE
- 6"DUAL-FOOT AIR CHUCK



320-011

PART #	PRESSURE RANGE	INCREMENT	INLET	HOSE LENGTH	
320010	10-120 psi	2 psi	1/4 FPT	12"	----
320011	10-120 psi	2 psi	1/4 FPT	12"	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# AIR ACCESSORY SET

PNEUMATICS

## 16PCS-AIR ACCESSORY SET

PART# 87-400



LIST PRICE: —

CONTENTS OF BLISTER CARD PACKAGE

### COMPONENTS AND PART#'S

1pc-1/4"FNPT industrial coupler	28540
2pcs-1/4"FNPT industrial plugs	28534
2pcs-1/4"MNPT industrial plugs	28546
1pc-1/4" male connector	28212
1pc-1/4" double female connector	28059
1pc-ball foot chuck	46600
1pc-blow gun	320050
1pc-dial tire gauge	320410
1pc-tapered rubber tip	320070
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
2pcs-inflation needles	320095
1pc-25ft. nylon recoil hose	307030

## 10PCS-AIR ACCESSORY SET

PART# 87-402



LIST PRICE: —

CONTENTS OF BLISTER CARD PACKAGE

### COMPONENTS AND PART#'S

1pc-1/4"female connector	28059
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-ball foot chuck	46605
1pc-blow gun	320050
1pc-1/4"FNPT industrial coupler	28540
1pc-1/4" FNPT industrial plug	28534
1pc-1/4"MNPT industrial plug	28546
2pcs-inflation needles	320095

## 7PCS-AIR ACCESSORY SET

PART# 87-404



LIST PRICE: —

CONTENTS OF BLISTER CARD PACKAGE

### COMPONENTS AND PART#'S

1pc-blow gun rubber tip	320070
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-extension	320080
1pc-blow gun	320050
2pcs-inflation needles	320095

## 11PCS-AIR ACCESSORY SET

PART# 87-406



LIST PRICE: —

CONTENTS OF BLISTER CARD PACKAGE

### COMPONENTS AND PART#'S

1pc-blow gun rubber tip	320070
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-blow gun standard nozzle	320077
1pc-blow gun adapter	320078
1pc-hose&chuck assembly	320414
1pc-blow gun	320050
1pc-inflation needle	320095
1pc-1/4"FNPT industrial coupler	28540
1pc-1/4" FNPT industrial plug	28534
1pc-1/4"MNPT industrial plug	28546

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# AIR ACCESSORY SET

PNEUMATICS

## 17PCS-AIR ACCESSORY SET

**PART# 87-408**



**LIST PRICE: —**

### CONTENTS OF BLISTER CARD PACKAGE

#### COMPONENTS AND PART#'S

1pc-1/4" double female connector	50004
2pcs-1/4" double male connectors	54044
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-dual-foot tire chuck	320005
1pc-tire gauge	320021
1pc-blow gun	320050
1pc-1/4" FNPT industrial coupler	28540S
2pcs-1/4" FNPT industrial plug	28534
4pcs-1/4" MNPT industrial plug	28546
2pcs-inflation needles	320095

## 12PCS-AIR ACCESSORY SET

**PART# 87-410**



**LIST PRICE: —**

### CONTENTS OF BLISTER CARD PACKAGE

#### COMPONENTS AND PART#'S

1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-blow gun rubber nozzle	320070
1pc-ball foot tire chuck	46600
1pc-blow gun	320050
1pc-1/4"FNPT industrial coupler	28540
1pc-1/4" MNPT industrial coupler	28552
2pcs-1/4"FNPT industrial plug	28534B
2pcs-1/4"MNPT industrail plug	28546B
1pc-inflation needle	320095

## 20PCS-AIR ACCESSORY SET

**PART# 87-412**



**LIST PRICE: —**

### CONTENTS OF BLISTER CARD PACKAGE

#### COMPONENTS AND PART#'S

1pc-dual-foot tire chuck	320005
1pc-tire gauge	320021
1pc-blow gun rubber nozzle	320070
1pc-blow gun adapter	320078
1pc-1/4" double male connector	54044
1pc-1/4" double female connector	50004
1pc-blow gun safety nozzle	320075
1pc-blow gun tapered nozzle	320076
1pc-thread seal tape	982107
1pc-blow gun	320050
2pcs-1/4"FNPT industrial coupler	28540S
2pcs-1/4"FNPT industrial plug	28534
3pcs-1/4"MNPT industrial plug	28546
2pcs-inflation needles	320095
1pc-1/4"x 25Ft coil Nylon hose	307030

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

PNEUMATICS



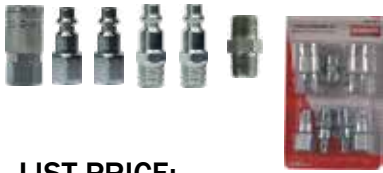
# QUICK DISCONNECT KITS

PNEUMATICS

## 1/4" X 1/4" NPT INDUSTRIAL 7PCS

**PART# 87-414**

CONTENTS OF BLISTER CARD PACKAGE



LIST PRICE: —

**COMPONENTS AND PART#'S**

2pc-1/4"x1/4" FNPT T I/M coupler	28540S
2pcs-1/4"x1/4" FNPT I/M plugs	28534
2pcs-1/4"x1/4"MNPT I/M plugs	28546
1pc-double 1/4" MNPT fitting	54044

## 1/4" X 1/4" NPT INDUSTRIAL 5PCS

**PART# 87-416**

CONTENTS OF BLISTER CARD PACKAGE



LIST PRICE: —

**COMPONENTS AND PART#'S**

1pc-1/4"x1/4"FNPT I/M coupler	28540S
4pc-1/4"X1/4" MNPT I/M plug	28546

## 1/4" X 1/4" NPT INDUSTRIAL 5PCS

**PART# 87-418**

CONTENTS OF BLISTER CARD PACKAGE



LIST PRICE: —

**COMPONENTS AND PART#'S**

1pc-1/4"x1/4"FNPT I/M coupler	28540S
1pc-1/4"x1/4"FNPT I/M plug	28534
1pc-1/4"X1/4" MNPT I/M plug	28546
1pc-double 1/4" MNPT fitting	54044

## 1/4" X 1/4" NPT INDUSTRIAL 3PCS

**PART# 87-420**

CONTENTS OF BLISTER CARD PACKAGE



LIST PRICE: —

**COMPONENTS AND PART#'S**

1pc-1/4"x1/4" FNPT I/M coupler	28540S
1pc-1/4"x1/4" FNPT I/M plug	28534
1pc-1/4"x1/4" MNPT I/M plug	28546

## 3/8" X 1/4" NPT AUTOMOTIVE 5PCS KIT

**PART# 87-422**

CONTENTS OF BLISTER CARD PACKAGE



LIST PRICE: —

**COMPONENTS AND PART#'S**

1pc-3/8"x1/4" FNPT Automotive coupler	28525S
2pcs-3/8"x1/4"MNPT Automotive plugs	28512
1pc-double 1/4"MNPT fitting	28212
1pc-double 1/4"FNPT fitting	28059

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# GAUGES

## STANDARD DRY GAUGES

### STEEL CASE

All the gauges supplied by us. are designed for long, reliable service under rugged conditions. Typical applications include compressors, filter regulators, water pumps, beverage dispensing equipment, hydraulic and pneumatic systems, and other applications, where the media does not corrode brass. **ALL CONNECTIONS ARE BRASS.**



**1-1/2" FACE**  
**1/8" NPT LOWER MOUNT**

PART #	PSI	
80501	0-15	----
80502	0-30	----
80503	0-60	----
80504	0-100	----
80505	0-160	----
80506	0-200	----

### LOWER MOUNT

- Plastic lens (window)



**2" FACE**  
**1/4" LOWER MOUNT**

PART #	PSI	
80001	0-15	----
80002	0-30	----
80003	0-60	----
80004	0-100	----
80005	0-160	----
80006	0-200	----
80007	0-300	----
80020	30-0 Vacuum	----



**2-1/2" FACE**  
**1/4" LOWER MOUNT**

PART #	PSI	
80031	0-15	----
80032	0-30	----
80033	0-60	----
80034	0-100	----
80035	0-160	----
80036	0-200	----



**1-1/2" FACE**  
**1/8" NPT CENTER BACK MOUNT**

PART #	PSI	
80511	0-15	----
80512	0-30	----
80513	0-60	----
80514	0-100	----
80515	0-160	----
80516	0-200	----

### CENTER BACK MOUNT



**2" FACE**  
**1/4" CENTER BACK MOUNT**

PART #	PSI	
80301	0-15	----
80302	0-30	----
80303	0-60	----
80304	0-100	----
80305	0-160	----
80306	0-200	----
80307	0-300	----



**2-1/2" FACE**  
**1/4" CENTER BACK MOUNT**

PART #	PSI	
80331	0-15	----
80332	0-30	----
80333	0-60	----
80334	0-100	----
80335	0-160	----
80336	0-200	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**GAUGES**  
PNEUMATICS

**LIQUID FILLED GAUGES**

**STAINLESS CASE**

Liquid filled gauges enhance the reliability and integrity of the measuring system for long periods. The glycerine filling helps dampen the effects of vibration and pulsation. It also lubricates the movement which extends the life of the gauge. ALL



**1-1/2" FACE**  
**1/8" LOWER MOUNT**

PART #	PSI	
80601	0-15	----
80602	0-30	----
80603	0-60	----
80604	0-100	----
80605	0-160	----
80606	0-200	----



**2-1/2" FACE**  
**1/4" LOWER MOUNT**

PART #	PSI	
80061	0-15	----
80062	0-30	----
80063	0-60	----
80064	0-100	----
80065	0-160	----
80066	0-200	----
80067	0-300	----
80068	0-400	----
80069	0-600	----
80100	0-1000	----
80101	0-1500	----
80102	0-2000	----
80103	0-3000	----
80104	0-5000	----
80105	0-10000	----
80080	30-0 Vacuum	----
80081	-30 to +30	----



**4" FACE**  
**1/4" LOWER MOUNT**

PART #	PSI	
80463	0-100	----

- Liquid Filled Gauges with a stainless case are used for protection in harsh environments.
- Stainless Steel Case
- Copper Alloy Wetted parts
- Polycarbonate window
- ± 1.5% of span accuracy
- Temp. Range -104°F to 158°F

**CENTER BACK MOUNT**



**1-1/2" FACE**  
**1/8" CENTER BACK MOUNT**

PART #	PSI	
80611	0-15	----
80612	0-30	----
80613	0-60	----
80614	0-100	----
80615	0-160	----
80616	0-200	----



**2-1/2" FACE**  
**1/4" CENTER BACK MOUNT**

PART #	PSI	
80201	0-15	----
80202	0-30	----
80204	0-60	----
80203	0-160	----
80205	0-100	----
80206	0-200	----
80207	0-300	----
80208	0-400	----
80209	0-600	----

It's not the situation, but whether we react negative or respond positive to the situation that is important.

- Zig Ziglar

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# GAUGES/ SYPHON

## PNEUMATICS

### Water Test Gauge

0-300 PSI DIAL  
3/4" FEMALE HOSE  
CONNECTION



PART #	FACE SIZE	
991249	2"	----
991250	2-1/2"	----

### Water Test Gauge w/Lazy Hand (Maximum pointer)

2-1/2" GAUGE  
0-300 PSI DIAL  
3/4" FEMALE HOSE  
CONNECTION



Regular pressure hand pushes LAZY hand to peak operating or surge pressure point where it remains until you manually reset it. Excellent to determine if P/T valve is leaking from failure or if leaking is caused by surge of excessive pressures. (Attach gauge to Boiler Drain Valve overnight.) LAZY hand operates over entire gauge range of 0-300psi

PART #	
991251	----

### GAS TEST GAUGE

Pressure test residential and commercial pipe systems



PART #	FACE SIZE	
GT15	0-15	----
GT30	0-30	----
GT60	0-60	----

### BODY ONLY



PART #	FACE SIZE	
991259	3/4" FIP x 1/4" TAP	----

### SYPHON

#### BRASS

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



PART #	SIZE	
995210	1/4" 90°	----
995211	1/4" 180°	----
995212	1/4" 270°	----
995213	1/4" 360°	----

#### STEEL

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



PART #	SIZE	
995214	1/4" 90°	----
995215	1/4" 180°	----
995216	1/4" 270°	----
995217	1/4" 360°	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# TAPES/ SEALANT

## PNEUMATICS

### PTFE THREAD SEAL TAPE

- Density 0.4
- Thickness 3.5 MIL
- Meets MIL specs



PART #	SIZE	CASE QTY	
982107	1/2" x 260"	500	----
982108	1/2" x 520"	500	----
982109	3/4" x 260"	350	----
982110	3/4" x 520"	350	----

POP OUT COVERED SPOOL

### GREY STAINLESS STEEL

- Density 1.2
  - Thickness 4MIL
  - Meets MIL specs
- T-27730A & CID A-A 58092



PART #	SIZE	CASE QTY	
982135	1/2" x 260"	250	----
982136	1/2" x 520"	150	----
982137	3/4" x 260"	150	----
982138	3/4" x 520"	150	----

### GREEN OXYGEN TAPE

- Density 1.2
  - Thickness 3.5MIL
  - Meets MIL specs
- T-27730A & CID A-A 58092



PART #	SIZE	CASE QTY	
982130	1/2" x 260"	250	----
982131	1/2" x 520"	150	----
982132	3/4" x 520"	150	----

### PTFE BLUE SEAL TAPE

- Professional grade top -450 to +450°F
  - Super long roll
  - Twice the density of standard tape for less passes, lasts longer
  - Density 0.8
  - Thickness 3.5 MIL
  - Meets MIL Spec
- T-27730A



PART #	SIZE	CASE QTY	
982120	1/2" x 1368"	250	----
982121	3/4" x 1368"	150	----
982122	1" x 1296"	150	----

### YELLOW GAS LINE TAPE

- Density 0.9
  - Thickness 4MIL
  - Meets MIL specs
- T-27730A



PART #	SIZE	CASE QTY	
982125	1/2" x 260"	250	----
982126	1/2" x 520"	150	----

### PVC ELECTRICAL TAPE

- Rated to 176 degrees fahrenheit
- Suitable for use up to 600V
- UL Listed
- Individually wrapped in cellophane



PART #	SIZE	
982140	3/4" X 60' Black	----

## THREAD SEALANT

### GASOILA SOFT-SET THREAD WITH PTFE



PART#	SIZE	UNITS PER CASE	
983100	1/4 pt. Brush	24	----
983101	1/2 pt. Brush	24	----

### PLS 2 PREMIUM THREAD AND GASKET SEALER



PART#	SIZE	UNITS PER CASE	
983110	1/4 pt. Brush	12	----
983111	1 pt. Brush	6	----

### GASOILA NT NON-PTFE THREAD SEALANT



PART#	SIZE	UNITS PER CASE	
983120	1/2 pt. Brush	12	----
983121	1 pt. Brush	6	----

### JC-30 GASOILA HIGH-FILL



PART#	SIZE	UNITS PER CASE	
983115	1/4 pt. Brush	12	----
983116	1 pt. Brush	6	----

### FREE ALL DEEP PENETRATING OIL



PART#	SIZE	UNITS PER CASE	
983125	6 oz. Aerosol	12	----
983126	11 oz. Aerosol	12	----

### LUBE-IT ALL DEEP LUBRI-



PART#	SIZE	UNITS PER CASE	
983130	6 oz. Aerosol	12	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# TRUCK AND TRAILER



## INDUSTRY GRADE NYLON AIR COIL ASSEMBLY - SET

- Each kit contains one Emergency (Red) and one service (Blue) 1/2" O.D. nylon tubing assembly.
- 1/2" -14 NPTF end fitting with heavy gauge spring.
- Assemblies meet SAE J844 and DOT FMVSS 106 requirements.
- Temp rating -40° - +208°

PART #	LENGTH	PIGTAIL LENGTH TRACTOR END	PIGTAIL LENGTH TRAILER END	
39404	12'	6"	6"	----
39400	15'	12"	12"	----
39402	15'	40"	12"	----
39406	20'	12"	12"	----



## FIFTH WHEEL SLIDER COIL

- Temperatures range -40 to 208°F
- 150 psi max pressure rating
- Meets SAE J844 and DOT FMVSS 106 requirements.
- (2) 1/4" OD fittings assembled

PART #	DESCRIPTION	LENGTH	FITTINGS	
39839	5th Wheel slider coil	up to 54"	(2) 1/4" MPT	----
39838	5th Wheel slider coil	up to 72"	(2) 1/4" MPT	----

## 3-IN-1 AND 4-IN-1 COMBINATION AIRLINE CABLE

- (2) 3/8" ID SAE J1402 rubber service and emergency with blue (service) and red (emergency) gladhand grip handle
- Color-coded grip helps to minimize incorrect tractor/trailer connections have glad handle with Vibraseal
- ABS power line (green) – meets SAE J2222 requirements
- Auxiliary power line (yellow) – fitted with SAESS60 plugs that have an inverted (male) ground pin 4-in-1 only
- SAE J560 Plugs with sleeves for superior corrosion protection and strain relief
- Corrosion resistant all brass fittings 1/2" male NPT w/ Vibraseal
- Tapered grip flexes with airline during tight turns for kink protection
- Temp rating -40 - 208°F



PART #	DESCRIPTION	
39825	Combo 3 in 1 assembly 15 ft.	----
39962	Combo 4 in 1 assembly 15 ft.	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**HOSE SUPPORT**

TRUCK AND TRAILER

**HOSE SUPPORT****AIRBRAKE HOSE REPAIR KIT**

- Fittings to repair hose with a minimum 3/4" OD
- Meets DOT 106 SAE j1402
- Brass sleeve and barb
- Pre-applied sealant

PART #	DESCRIPTION	
39855	3/8" Quick fix hose fitting	----
*39856	3/8" Quick fix hose kit- clam pack	----
39857	1/2" Quick fix hose fitting	----

\*Supplied with hex tool



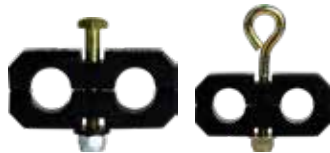
39425

39426

**POGO STICKS CANNISTER STYLE**

- Large diameter housing eliminates spring binding
- Increased resistance to sagging and bending
- Thick gauge heavy duty spring
- Used for all nylon and rubber air brake hose
- Forged steel mounting stud 7/16-20 thread
- All Pogo Sticks include Eyebolt and Nut

PART #	SIZE	DESCRIPTION	
39425	40"	Chrome finish	----
39426	40"	Zinc Plated Steel	----

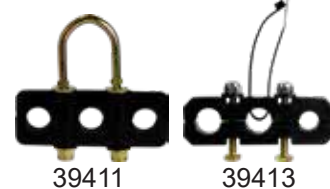


39409

39410

**HOSE HOLDERS**

- ABS Plastic
- 2, 3 and 4 Hold



39411

39413



39416

39412

PART #	SIZE	DESCRIPTION	
39409	1/2"	2-Hose Holder Hex Head	----
39410	1/2"	2-Hose Holder	----
39411	1/2"	3-Hose Holder	----
39413	1/2"	3-Hose Hex Head w Cable tie	----
39416	1/2"	4-Hose V Bolt w Cable Tie	----
39412	1/2"	4-Hose Holder	----

**HOSE SEPARATORS**

- ABS Plastic



39415

39418

PART #	SIZE	DESCRIPTION	
39414	3/8"	2-Hose Separator	----
39415	3/8"	4-Hose Separator	----
39418	1/2"	2-Hose Separator	----
39419	1/2"	4-Hose Separator	----

**WARNING:** This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# HOSE SUPPORT

TRUCK AND TRAILER



## TENDER KIT COMPONENTS

PART #	DESCRIPTION	
39411	3 hole holder	----
39469	Clip Carabiner	----
39472	1-1/2" ID Hanger Bracket	----
39473	Yoke	----

• Sold individually



## SPRING WITH TANDEM FRAME CLIP

- Steel spring and clip - yellow dichromate finish
- 3/4" OD
- Beam clip

PART #	DESCRIPTION	
39477	Frame Clip with Cable Tie	----

PART #	LENGTH	DESCRIPTION	
39463	6" Spring	Tandem frame clip	----
39464	3" Spring	Tandem frame clip	----
39471		Frame clip only	----



## CLIPS

PART #	DESCRIPTION	
95631	ABS Clip for 1/2" Air Hose	----
95640	5" Axle Clip	----
95641	5-3/4" Axle Clip	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# HOSE SUPPORT

TRUCK AND TRAILER



## TENDER KIT

**Complete Tender Kit includes:**

- Large snap Clip
- Heavy duty spring
- Protective tube

PART #	SPRING & TUBE LENGTH/ #PCS	ONE CLIP	3 HOLE CLAMP	YOKE	
39442	16" / 1pc	1pc	1pc		----
39444	16" / 2 pcs	1pc	1pc	2pcs	----
39446	20" / 1pc	1pc	1pc		----
39448	20" / 2pcs	1pc	1pc	2pcs	----
39452	25" / 1pc	1pc	1pc		----
39453	25" / 2pcs	1pc	1pc	2pcs	----

## HYDRAULIC TENDER KIT

PART #	SPRING & TUBE LENGTH/ #PCS	LARGE CLIP	HANGER BRACKET	YOKE	
39457	25" / 2pcs	1pcs	1pc	2pcs	----



## SLIDER BAR KITS

PART #	SPRING & TUBE LENGTH/ #PCS	LARGE CLIP	3 HOLE CLAMP	SLIDER BAR LENGTH	YOKE	
39437	16" / 1pc	1pc	1pc	43"		----
39438	16" / 2pcs	1pc	1pc	43"	2pcs	----
39459	20" / 2pcs	1pc	1pc	43"	2pcs	----
39460	25" / 1pc	1pc	1pc	43"		----
39461	25" / 2pcs	1pc	1pc	43"	2pcs	----
39470	16" / 1pc	1pc	1pc	38"		----
39462	16" / 2pcs	1pc	1pc	38"	2pcs	----
39451	25" / 1pc	1pc	1pc	38"		----
39454	25" / 2pcs	1pc	1pc	38"	2pcs	----

## BARS, SPRINGS, TUBES

PART #	SPRING & TUBE LENGTH/ #PCS	
39443	16" Tube only	----
39447	20" Tube only	----
39436	25" Tube only	----
39466	16" Spring only	----
39467	20" Spring only	----
39468	25" Spring only	----
39474	38" Slider Bar	----
39475	43" Slider Bar	----



**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# GLADHANDS

## ALUMINUM GLADHANDS



PORT A

- 1/2 " **FPT port**
- Aluminum Casting
- Permanent Clamp Screw
- Black rubber seals
- Stainless Steel filter
- Meet SAE J318 requirements

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	PORT A	
39870	Universal	Aluminum	Blk Rubber	No	1/2"	----
39871	Universal with filter	Aluminum	Blk Rubber	Yes	1/2"	----
39877	Emergency Red	Aluminum	Blk Rubber	No	1/2"	----
39878	Emergency with filter	Aluminum	Blk Rubber	Yes	1/2"	----
39874	Service Blue	Aluminum	Blk Rubber	No	1/2"	----
39875	Service with filter	Aluminum	Blk Rubber	Yes	1/2"	----



## PLATED ALUMINUM GLADHANDS

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	PORT A	
39832	Universal Standard	Plated Aluminum	Blk Rubber	No	1/2"	----
39833	Service - Blue	Plated Aluminum	Blk Rubber	No	1/2"	----
39834	Emergency - Red	Plated Aluminum	Blk Rubber	No	1/2"	----
39828	Service 38 degree	Plated Aluminum	Blk Rubber	No	1/2"	----
39829	Emergency 38 degree	Plated Aluminum	Blk Rubber	No	1/2"	----
39830	Service 38 degree	Plated Aluminum	Blk Rubber	No	3/8"	----
39831	Emergency 38 degree	Plated Aluminum	Blk Rubber	No	3/8"	----

## CAST IRON GLADHANDS



PORT A

- 1/2 " **FPT port**
- One-piece casting eliminates problems with clamp separation
- "Positive-stop" post, assures a perfect connection
- Polyurethane seal resist oils, chemicals & provide improved sealing & service life
- Gladhands meet SAE J318 requirements including breakaway requirement.

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	PORT A	
39506	Universal	Cast Iron	Black Polyurethane	No	1/2"	----
39507	Emergency	Cast Iron	Red Polyurethane	No	1/2"	----
39508	Service	Cast Iron	Blue Polyurethane	No	1/2"	----

## ANGLE MOUNT ALUMINUM GLADHANDS



PORT A

PORT B

- For use in trailer mounting locations
- Dual port provides connection options
- Powder-coated clamp plates are color coded for easy identification
- Port "A" comes standard as unplugged
- (2) 3/8 inch FPT Ports (one plugged).
- (2) 11/32 inch diameter mounting holes.
- Available with Port "B" plugged or unplugged (plug is included, loose in bag)
- Meet SAE J318

PART #	TYPE	MATERIAL	SEAL	FILTER	PORT A	PORT B	
39511	Emergency	Aluminum	Blk Rubber	No	Unplugged	Plugged	----
39512	Service	Aluminum	Blk Rubber	No	Unplugged	Plugged	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**AIR**

TRUCK AND TRAILER

**TRUCK AND TRAILER**

PORT A

**POWDER COATED IRON GLADHAND**

- Tough powder coating improves wear & corrosion resistance
- Vividly colored to provide improved identification of service & emergency lines
- Stainless steel plate eliminates corrosion of the mating surface
- Polyurethane seal resist oil, chemicals, provide improved sealing & service life
- Meet or exceeds SAE J318 standard

PART #	DESCRIPTION	FILTER	PORT A	
39509	Service with blue poly seal	Yes	1/2"	----
39510	Emergency with red poly seal	Yes	1/2"	----

**BRACKET MOUNT SWING AWAY GLADHAND**

- Bracket allows 180° rotation allowing for easy hookups, eliminating the need to twist lines during connections
- Helps protect rear-trailer gladhands when not in use
- Filter and closed seal are recommended
- Spring design provides consistent tension throughout rotation
- Design provides both back port and bottom port capabilities  
Gladhand mount - 1/2" Male Thread

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	
39515	Service (Blue)	Aluminum	Blk Rubber	yes	----
39516	Emergency (Red)	Aluminum	Blk Rubber	yes	----

**KNOB STYLE SHUTOFF GLADHAND**

- Economical trailer shutoff gladhand
- Centered low-profile "snap-stop" knob
- Full face rubber seal
- Available with assembled or separate fittings.
- Meets SAE J318

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	
39520	1/2" Service (Blue)	Aluminum	Blk Rubber	No	----
39521	3/8" Service (Blue)	Aluminum	Blk Rubber	No	----
39522	1/2" Emergency (Red)	Aluminum	Blk Rubber	No	----
39524	3/8" Emergency (Red)	Aluminum	Blk Rubber	No	----



PORT A

PORT B

**LEVER STYLE SHUTOFF GLADHAND**

- Flange mount
- Metal handle shutoff
- Full face rubber seal
- Tough metal Ball valve
- Color coded
- Meets SAE J318

PART #	DESCRIPTION	MATERIAL	SEAL	FILTER	PORT A NPT	PORT B NPT	
39531	Emergency (Red)	Aluminum	Blk Rubber	No	3/8"	1/4"	----
39530	Service (Blue)	Aluminum	Blk Rubber	No	3/8"	1/4"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**GLADHAND GRIPS**



**1/2" NPTF.**

- Comes with hardware and sealant
- Color-coded red and blue for easy air line identification - clamshell
- Handles are heat, oil and UV-resistant.
- Meet SAE J318

PART #	DESCRIPTION	
39535	Poly grip hardware	----



**ALUMINUM GLADHAND GRIPS**

- 1/2" NPTF
- Each pack contains (1) red and (1) blue - clamshell
- One piece design
- No screws or plastic parts
- Easy to install
- Class II anodized coating provides greater corrosion resistance

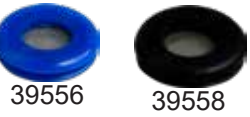
PART #	DESCRIPTION	
39537	Sure grip	----



**GLADHAND PACIFIER SEAL**

- Seals Gladhand from moisture, dirt and debris

PART #	DESCRIPTION	
39566	Gladhand pacifier	----



**GLADHAND SEALS**

Seal Options:

- Rubber
- Polyurethane
- With screen filter
- Double lip
- Filter screen only

PART #	DESCRIPTION	
39541	Blue, Polyurethane	----
39542	Red, Polyurethane	----
39543	Black, Polyurethane	----
39556	Blue with a screen filter Polyurethane	----
39557	Red with a screen filter Polyurethane	----
39558	Black with a screen filter Polyurethane	----
39550	Blue Double lip, Polyurethane	----
39551	Red Double Lips, Polyurethane	----
39552	Double Lip, Polyurethane	----
39544	Grey, Closed Style, Polyurethane	----
39560	Filter, Screen, Gladhand	----
39559	Filter, Screen, Gladhand	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**AIR**

## TRUCK AND TRAILER



39565

**DUMMY GLADHAND COUPLING KIT**

- 6 1/2" coupling length

PART #	CONNECTION	VENT	MATERIAL	
39563	Chain	Yes	Steel Yellow Zinc plated	----
39564	Chain	No	Steel Yellow Zinc plated	----
39565	Cable	N/A	Aluminum	----



39574

39575

**NYLON GLADHAND AND PLUG HOLDER**

- Stores Gladhand and electrical hook ups at a 45° angle.
- Can accept heavy ABS plug
- Standard mounting holes to install on back of cab.
- Glass-filled nylon, non-corrosive construction.

PART #	DESCRIPTION	
39574	1 plug slot	----
39575	2 plug slot	----

**GLADHAND HOLDER KIT**

- Steel - Zinc Yellow Dichromate
- Holds gladhands when disconnected



PART #	DESCRIPTION	
39573	Holder Kit	----
39572	Bracket only	----

**GLADHAND LOCK**

- Red molded plastic
- Prevents unwanted connections with trailers
- Protects idle units
- Universal for Aluminum and Iron Gladhands
- Supplied with 2-keys



PART #	DESCRIPTION	
39570	Gladhand Lock w/ 2 keys	----

\* **Not an Anti theft device**

**KING PIN LOCK-ANTI HOOK UP**

- Cast, Zinc plated
- Anti-tractor, trailer hook-up
- Supplied with 2 keys



PART #	DESCRIPTION	
39860	King Pin Lock w/ 2 keys	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# AIR CYLINDER



- 300 series stainless steel cylinder shafts provide excellent corrosion resistance and extended cycle life -cylinders tested to over 500,000 cycles.
- Lightweight, corrosion resistant aluminum tube with die cast aluminum end caps.
- Rear clevis cast as integral part of the rear cover for improved durability and mounting integrity.
- Double acting, Emralon-coated piston cup assures smooth long lasting operation even in cold weather conditions to ( - 40°F).
- Front end cap assembly includes pressure seal, dirt seal and oil impregnated bronze bushing.
- Cylinder tube imprinted with part number and date code for quick identification.
- All cylinders are factory pressure and leak tested prior to shipping.
- Front Cover Kit-Includes front cover with bushing and seals installed and two cylinder gaskets.
- Rear Cover Kit-Includes rear cover with two cylinder gaskets.
- Piston Cup Kit-Includes piston cup, lock nut and two cylinder gaskets.
- Shaft Kit-Includes shaft, lock nut and two cylinder gaskets.

PART #	SIZE	STROKE	RETRACTED	EXTENDED	TYPE	
39672	2 1/2"	4.0"	9.89"	13.89"	push/pull	----
39673	2 1/2"	6.0"	11.89"	17.89"	push/pull	----
39674	2 1/2"	8.0"	13.89"	21.89"	push/pull	----
39675	2 1/2"	6.0"	13.75"	19.75"	Spring return	----
39676	3 1/2"	8.0"	15.60"	24.28"	push/pull	----
39677	3 1/2"	10.0"	16.92"	26.95"	push/pull	----



## HIGH LIFT AIR CYLINDERS

- Aluminum tube with 16 RMS finish
- Temp rating -40 to 185°F
- Recommended working pressure 150 psi
- Minimum bursting pressure 150 psi
- 1275 lb. thrust at 100 psi
- 1158 lb. draw at 100 psi

PART #	DIA.	STROKE	RETRACTED	EXTENDED	TYPE	
39654	4"	24"	34.5"	58.5"	push/pull	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**AIR**

## TRUCK AND TRAILER

**TAILGATE AIR CYLINDERS**

- Die cast aluminum with mount hole for ½" pin and ¼" NPT port
- Molded piston cup
- Stainless steel piston rod with 5/8" – 18 thread
- 10 PSI – 120 PSI
- 10 psi min-120 psi max



39657



39660

PART #	DIA.	STROKE	LENGTH	TYPE	
39655	2-1/2"	4.0"	13.37	Push/Pull	----
39656	2-1/2"	6.0"	17.37	Push/Pull	----
39657	2-1/2"	8.0"	21.37	Push/Pull	----
39658	2-1/2"	4.0"	14.71	Spring Ret	----
39659	2-1/2"	6.0"	19.75	Spring Ret	----
39660	3-1/2"	6.0"	20.23	Push/Pull	----
39661	3-1/2"	8.0"	24.23	Push/Pull	----
39662	3-1/2"	8.0"	26.98	Push/Pull	----
39663	3-1/2"	10.0"	28.98	Push/Pull	----



39665



39667

**TAILGATE AIR CYLINDERS**

- Machined aluminum, 5/8" diameter stainless steel shaft with 5/8" - 18 threads, "O" rings and a UHMW polyethylene wear band
- Direct replacements to Haldex and MGM
- Standard operating pressure 100 psi
- 90psi min to 150 psi max

PART #	DIA.	STROKE	BRACKET	TYPE	
39665	6"	3"	Yes	Spring Ret	----
39667	6"	4.38"	No	Spring Ret	----

**FIFTH WHEEL AIR CYLINDER**

- 1/4" FPT port cast aluminum front and rear
- 2-1/2" Bore
- 6-3/4" stroke
- Front and rear mounting hole for 17/32" clevis,
- 100 psi
- Gold anodized tube for corrosion resistance



PART #	DESCRIPTION	
39669	Fifth Wheel Air Cylinder	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**AIR TANK DRAIN PULL VALVE**



PART #	SIZE	DESCRIPTION	
39595	1/4" male	5ft nylon coated pull cable	----
39596	1/4" male	4ft nylon coated pull cable	----
39597	1/4" male	3ft nylon coated pull cable	----
39600	1/4" male	Air valve only	----

**AIR TANK CHECK VALVE**

- Single check valves allow air to pass from a single source to its destination, and prevent air travel in the opposite direction.



PART #	MALE X FEMALE	
39604	1/4"	----
39605	3/8"	----
39606	1/2"	----

**D-2 STYLE AIR BRAKE GOVERNOR**

- Opening and closing pressures of 100 to 120 psi
- High temperature O-ring construction
- Gasket and plugs included
- Replaces Bendix 275491 & KN18530



PART #	THREAD	DESCRIPTION	
39592	6-1/8" NPT	Air Brake Governors D-2 style	----

**IN-LINE QUICK RELEASE VALVE**

- Quick release for the air brake system
- 3/8" female exhaust port
- 2-3/8" female delivery port
- Cracking pressure: 1 PSI
- Helps meet the FMVSS -121 requirement for timing



PART #	DESCRIPTION	
39610*	3/8" NPT In-Line quick release valve	----
39611**	1/2" NPT In-Line quick release valve	----

\* Replaces Bendix 229859, 288351 & KN32005

\*\* Replaces Bendix 229860 & KN32011

**R-12 RELAY VALVE**

- 1/4" Relay Valve with multiple delivery ports
- Replaces Bendix 102166, 102626, 103009



PART #	SUPPLY PORT	DELIVERY PORT	DESCRIPTION	
39613	1/2" NPT	4, 1/2"NPT	4 psi no Bracket	----
39614	1/2" NPT	4, 1/2"NPT	4 psi Relay Valve	----
39615	3/4" NPT	2, 1/2" NPT	4 psi Relay Valve	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**AIR**

## TRUCK AND TRAILER

**R-14 RELAY VALVE**

- 1/4" Relay Valve with two delivery and supply ports
- Replaces Bendix 103010

PART #	SUPPLY PORT	DELIVERY PORT	DESCRIPTION	
39616	2-3/4"NPT	2-1/2"NPT	4 psi Relay Valve	----

**THREE WAY SOLENOID**

- Operates a minimum GF 50,000 cycles
- Inlet port normally closed
- Must be mounted vertically with the air inlet port facing up
- 1/4" female NPT ports
- 12 Volts
- 100-120 psi operating pressure
- Attached mounting bracket with two 9/32" diameter mounting holes on 2-1/2" centers

PART #	SUPPLY PORT	DESCRIPTION	
39684	2, 1/4" FPT	Three way Solenoid	----

**UNIVERSAL SOLENOID**

- Operates a minimum of 50,000 cycles.
- 125 amps at 12 volts.
- Continuous voltage.
- One on/off circuit
- 5/16 inch side studs, No. 10 top stud(s).
- 2 1/8 on Center
- 5/16 x 19/32
- Hardware included.
- Normally open

PART #	DESCRIPTION	
39687	4 stud Solenoid	---
39688	3 stud Solenoid	---

**AIR SOLENOID VALVE**

- Operates a minimum of 50,000 cycles.
- 100 psi max pressure.
- 1/4" Thread
- 10 Watts, 12 VDC
- Replaces Neway 90054075

PART #	DESCRIPTION	
39689	12V Closed	---
39690	12V Open	---

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



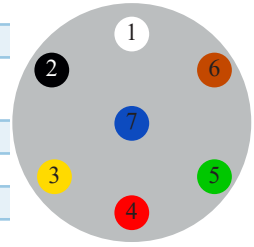
# COILED CABLE

## SEVEN-WAY COILED CABLE ASSEMBLIES



- ABS assemblies are heavy duty to power trailers
- HD Green gives clear ABS identification
- Resists abrasion, great coil retention
- Heavy duty plugs with spring guards
- ABS Cable meets SAE J2394
- Operating temperature range of -55° to +185°F

PIN LOCATION	COLOR CODE	GAUGE	CIRCUIT
1	White	8	Ground
2	Black	12	Clearance, side and ID lamps
3	Yellow	12	Left turn and Hazard
4	Red	10	Stop lamp and Anti-lock
5	Green	12	Right turn and Hazard
6	Brown	12	Tail and Plate lamp



### ABS

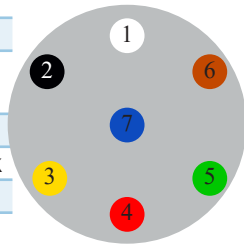
PART #	LENGTH	DESCRIPTION	
39736	12'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	----
39737	15'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	----

## SEVEN-WAY COILED CABLE BLACK

- This high quality, durable construction is recommended for single-trailer configurations using standard lighting on non-ABS vehicles.
- Durable black outer jacket with heavy duty zinc die cast plugs and two spring guards included.



PIN	COLOR CODE	HD GAUGE	ECO GAUGE	CIRCUIT
1	White	10	12	Ground
2	Black	12	14	Clearance, side and ID lamps
3	Yellow	12	14	Left turn and Hazard
4	Red	12	14	Stop lamp and Anti-lock
5	Green	12	14	Right turn and Hazard
6	Brown	12	14	Tail and Plate lamp
7	Blue	12	14	ABS Power Aux



### STANDARD - HEAVY DUTY

PART #	LENGTH	DESCRIPTION	
39738	12'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----
39739	15'	Coiled Electrical Cord, w/15 in lead, w/plugs, Black	----

### STANDARD - ECONOMY

PART #	LENGTH	DESCRIPTION	
39740	12'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----
39741	15'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## ELECTRICAL

### TRUCK AND TRAILER

#### SIX WAY COILED ELECTRIC CABLE ASSEMBLY



- 6', 8', 12' Length
- Includes 2 Thermoseal 6-way plugs
- For light duty towing applications such as boats and utility trailers
- Plugs are molded for moisture and corrosion resistance
- 4/14 Gauge cable
- Flexible from -55°F to 150°F (-66°C to 66°C)

PART #	DESCRIPTION	
39752	6ft, 14awg w/12" Lead at 2 ends	----
39753	8 ft, 14awg w/12" Lead at 2 ends	----
39754	12ft,14awg w/12" Lead at 2 ends	----

#### FOUR WAY COILED ELECTRIC CABLE ASSEMBLY



- 4/14 Gauge cable
- 12' & 15' length
- Includes 2 Thermoseal 4-way plugs
- For light duty towing applications such as boats and utility trailers
- Plugs are molded for moisture and corrosion resistance
- Flexible from -55°F to 150°F (-66°C to 66°C)

PART #	DESCRIPTION	
39748	12' with 12" Lead, both ends 4/14awg	----
39749	15' with 12" Lead, both ends 4/14awg	----

#### DUEL POLE COILED ELECTRIC CABLE ASSEMBLY



- Black Jacket
- 12' & 15' length
- 200 Amp at 12 VDC.
- Zinc die cast plugs.
- 4 gauge cable.

PART #	DESCRIPTION	
39744	12' Coil With 12" Lead at 2 ends 4awg	----
39745	15' Coil With 12" Lead at 2 ends 4awg	----

#### SINGLE POLE COILED ELECTRIC CABLE ASSEMBLY



- Black Jacket
- 12' & 15' length
- For applications that require direct electrical power to trailer lift gates.
- Rated at 265 amps on/off service (30 seconds on/50 seconds off).
- Zinc die cast plugs with spring guards included.
- 4 gauge cable.

PART #	DESCRIPTION	
39742	12' Coil With 12" Lead both ends 4awg	----
39743	15' Coil With 12" Lead both ends 4awg	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)





**7 WAY PLUGS AND SOCKETS**



39758



39757



39772



- Heavy-duty, nickel-plated zinc die cast housings
- Brass terminal pins for maximum current carrying ability
- Field repairable with standard tools
- Fully interchangeable with other SAE-type, 7-way connectors
- ATA marked wire terminals.
- Internal clamp holds cable securely in place.
- Standard seven-way plugs meet ATA and SAE J560 requirements
- ISO plugs meet ISO 3731:1997 requirements.
- ISO socket prevents connections with Non-ISO plugs - Used in tractor/trailer systems
- ISO color-coded yellow, non-corrosive reinforced nylon housing.

**PLUGS**

PART #	DESCRIPTION	
39757	7-Way Single Grip Plug w/Spring Guard	----
39758	7-Way Single Grip Plug NO Spring.	----
39772	7-Way Double Grip Plug w/Spring.	----
39773	7-Way Double Grip Plug NO Spring Guard	----
39788	7-way ISO plug	----

**SOCKETS**

PART #	DESCRIPTION	
39774	Solid Pin 7-Way Metal Socket	----
39775	Split Pin 7-Way Metal Socket	----
39789	7-way, ISO socket	----

**7 WAY DOUBLE GRIP PLUG**

- T-Grip weather guard
- Plastic grip

PART #	DESCRIPTION	
39818	7-Way Double Grip Plug, Plastic	----

**6 AND 7 WAY ADAPTER**

PART #	DESCRIPTION	
39786	Seven way plug to Six Way Socket Adapter	----
39787	Six way plug to Seven Way socket Adapter	----

**RV 7-WAY PLUG**

- Primarily used in RV applications.
- Constructed of molded PVC for impact resistance
- Blade Style Pin

PART #	DESCRIPTION	
39819	7-way Plastic plug	----

**RV 7-WAY SOCKET**

- RV Screw-type socket
- 6-24 VDC.
- Mounting 2-1/4" inch on center .
- Constructed of molded PVC

PART #	DESCRIPTION	
39820	7-way socket	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# ELECTRICAL

## TRUCK AND TRAILER



### 6 - WAY PLUGS AND SOCKETS

PART #	DESCRIPTION	
39782	6-Way Double Grip Metal Plug w/Spring Guard.	----
39783	6-Way Metal Socket.	----

### 4 WAY PLUGS AND SOCKETS

- Heavy-duty zinc die cast housings on plugs and sockets.
- Plug locking system works with socket door to ensure proper hookup and prevent unintentional disconnections.
- Spring guard supports and protects cable.



### 4 - WAY

PART #	DESCRIPTION	
39778	4-Way Double Grip Metal Plug w/Spring Guard.	----
39779	4-Way Metal Socket.	----

### 2 POLE PLUGS AND SOCKETS

- 200 amp 4 gauge wire capacity.
- Heavy-duty zinc die cast housing.
- Internal ground.
- Spring guard supports and protects cable.



PART #	DESCRIPTION	
39768	2 Pole Double Grip Metal Plug w/Spring Guard.	----
39769	2 Pole Metal Socket	----

### SINGLE POLE PLUGS AND SOCKETS

- Used to provide power to heavy draw auxiliary trailer equipment.
- Heavy-duty zinc die cast housings.
- Power and ground terminals hold up to 1/0 gauge wire.



PART #	DESCRIPTION	
39764	1-Way Double Grip Plug w/Spring Guard.	----
39765	1-Way Double Grip Plug w/Spring Guard and Ground Kit	----
39766	1-Way Metal Socket	----

### GROUND KIT



PART #	DESCRIPTION	
39809	Ground Kit (Bolt, Nut and Wire Lug) for 1-Way Plug or Socket	----

### PROTECTOR BOOT FOR PLUG

- Protective rubber boot seals out moisture and contaminants



PART #	DESCRIPTION	
39807	Protector Boot	----

**WARNING:** This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**7 WAY SOCKET WITH CIRCUIT BREAKER**

- Non-corrosive, reinforced nylon housing for added durability.
- Designed for No. 8 ring terminals.
- ATA color-coded contacts.
- Solid brass split pins are zinc-plated for corrosion resistance.
- Each socket includes automatic reset circuit breakers with positive snap action to eliminate arcing (unless otherwise noted).
- Mounting holes are 4 1/2 inch on center and include steel bushings for added housing protection.
- Adhesive-backed mounting gasket included.
- Circuit breaker sockets meet SAE J560 requirements.



PART #	DESCRIPTION	
39792	No circuit breakers	----
39793	15amp Plastic with circuit breakers	----
39794	20amp Plastic with circuit breakers	----
39795	30amp Plastic with circuit breakers	----

**7 WAY CIRCUIT CHASER**

- Instantly finds short or faulty circuits
- Portable



PART #	DESCRIPTION	
39805	7 way circuit	----

**CIRCUIT BREAKERS - PLASTIC**

- Colored Battery molded Stud
- 12 Volt
- Meets SAE j553 requirements
- Nuts included



PART #	DESCRIPTION	
39800	15 AMP	----
39801	20 AMP	----
39802	25 AMP	----
39803	30 AMP	----

**NOSE BOX - DEEP**

- Zinc - extra deep



PART #	DESCRIPTION	
39814	Deep Nose Box	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## BATTERY GROUND STRAP



- 4 gauge wire.
- Molded zinc-plated steel lugs and tin-plated copper stranding.
- 7/16 inch diameter bolt hole.
- 12" Long

PART #	DESCRIPTION	
39712	12", 4 Gauge ground strap	----

## STAINLESS STEEL BATTERY NUT



PART #	TYPE	
39713	3/8"	----

## RUBBER GROMMET

- Black Rubber



PART #	ID	OD	
95450	5/16"	9/16"	----
95451	5/8"	1 1/4"	----
95452	3/4"	1 3/4"	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# ACCESSORIES



## DEER WHISTLES

- Produces two separate and unique frequencies
- High output airflow activated
- Can be removed from base for cleaning and car washes
- Mounts with high bond tape **(included)**
- Lowers risk for vehicle-animal collisions

PART #	DESCRIPTION	
39465	2 pack whistle	----

## CABLE TIE STRAPS - NYLON

- Used to secure and bundle
- CSA Certified
- RoHs Compliant
- UV or Standard

### STANDARD

PART #	LENGTH	STRENGTH	PACKAGE QTY	
95601	7 1/2"	50lb	100	----
95602	11"	50 lb	100	----
95603	14.5"	50 lb	100	----
95604	24"	175 lb	50	----
95605	36"	175lb	50	----
95606	48"	175 lb	50	----

## UV BLACK

PART #	LENGTH	STRENGTH	PACKAGE QTY	
95610	7 1/2"	50lb	100	----
95611	14"	50 lb	100	----
95612	24"	175lb	50	----
95613	36"	175lb	50	----



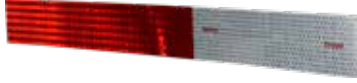
**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**ACCESSORIES**

## TRUCK AND TRAILER



95620

**CONSPICUITY TAPE**

Tape is designed for trucks, trailers, and other vehicles for easy nighttime vehicle recognition and increased road safety. It is a high quality, durable microprismatic retroreflective material with a pressure sensitive adhesive. The solid construction does not require edge sealing. Conspicuity tape provides superior reflectivity and may help reduce accidents.

- DOT -C2 Certified
- Meets or exceeds NHTSA, FMVSS 108 & ASTM D4956
- Meets Canada TSD 108
- 10 year durability

PART #	DESCRIPTION	APP. WT.	
95620	2" x 150' Roll of 11" Red / 7" White	0.32	----
95621	2" x 150' Roll of 6" Red / 6" White	0.32	----
95622	2" x 150' Roll of solid white	0.32	----
95623	2" x 18", kiss cut strip, white	0.03	----
95624	2" x 18" kiss cut strip of 11" Red / 7" White	0.03	----



95625

95627

- Meets or exceeds ANSI/ASAE S279, ANSI/ASAE S276 & ASTM D-4956
- 7 year durability



95628

PART #	DESCRIPTION	APP. WT.	
95625	1" X 150' Roll of solid yellow	0.17	----
95626	2" X 150' Roll of solid yellow	0.32	----
95627	3" round all plastic reflector, Red	0.06	----
95628	3 3/4" x 6 1/2" American flag, type IV HIP	0.02	----

**TARP STRAPS**

- Heavy Duty EPDM tarp straps
- Longer lasting than rubber
- Greater stretch length
- Ozone and weather resilient
- Made in the USA



PART #	STRAP LENGTH	MATERIAL	DESCRIPTION	QTY	
990790	10"	EPDM	Tarp strap with S hook	50	----
990791	15"	EPDM	Tarp strap with S hook	50	----
990792	21"	EPDM	Tarp strap with S hook	50	----
990793	31"	EPDM	Tarp strap with S hook	50	----
990794	41"	EPDM	Tarp strap with S hook	50	----



# NYLON DOT AIR BRAKE TUBING

TRUCK AND TRAILER



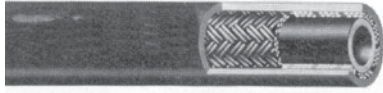
- Air Brake Tubing available from inventory in a large variety of colors and sizes
- Superior cold weather flexibility and abrasion resistance
- UV and ozone resistant nylon
- Meets or exceeds SAEJ844 (Type A - non-reinforced & Type B - reinforced)
- Meets or exceeds DOT requirements for use with compression fittings (NOTE: SAE does not recognize 1/8", 5/32" or 3/16" O.D. tubing for use with air brake systems)
- Air Brake Tubing identified per SAE J844 & FMVSS No. 106 Brake Hoses, 49 CFR 571.106
- Conforms to our own rigorous qualification and inspection testing which exceeds SAE and DOT requirements
- Designed to operate at up to 150 psi in air brake systems
- Resistant to attack by gasoline, diesel fuel and commonly used road and cleaning chemicals
- Air Brake Tubing available on bulk spools or by packages
- Operating range: -40°- 200°F - Not made for fuel

PART NUMBER	COLOR	LENGTH	NOMINAL O.D.	NOMINAL WALL	
38950B2	Black	2000'	1/8"	0.023"	----
38950	Black	100'	1/8"	0.023"	----
3895BA	Black	50'	1/8"	0.023"	----
38951B1	Black	1000'	5/32"	0.032"	----
38951	Black	100'	5/32"	0.032"	----
38951BA	Black	50'	5/32"	0.032"	----
38953B1	Black	1000'	3/16"	0.035"	----
38953	Black	100'	3/16"	0.035"	----
38953BA	Black	50'	3/16"	0.035"	----
389523	Black	1000'	1/4"	0.040"	----
389522	Black	500'	1/4"	0.040"	----
38952	Black	100'	1/4"	0.040"	----
38952BA	Black	50'	1/4"	0.040"	----
38952U1	Blue	1000'	1/4"	0.040"	----
38952U	Blue	100'	1/4"	0.040"	----
38952UA	Blue	50'	1/4"	0.040"	----
38952O	Orange	100'	1/4"	0.040"	----
38952OA	Orange	50'	1/4"	0.040"	----
38952G1	Green	1000'	1/4"	0.040"	----
38952G	Green	100'	1/4"	0.040"	----
38952GA	Green	50'	1/4"	0.040"	----
38952R1	Red	1000'	1/4"	0.040"	----
38952R	Red	100'	1/4"	0.040"	----
38952RA	Red	50'	1/4"	0.040"	----
38952Y1	Yellow	1000'	1/4"	0.040"	----
38952Y	Yellow	100'	1/4"	0.040"	----
38952YA	Yellow	50'	1/4"	0.040"	----
38954B5	Black	500'	5/16"	0.040"	----
38954	Black	100'	5/16"	0.040"	----
38954BA	Black	50'	5/16"	0.040"	----
38960B5	Black	500'	3/8"	0.062"	----
38960	Black	100'	3/8"	0.062"	----
38960BA	Black	50'	3/8"	0.062"	----
38960U5	Blue	500'	3/8"	0.062"	----
38960U	Blue	100'	3/8"	0.062"	----
38960UA	Blue	50'	3/8"	0.062"	----
38960O5	Orange	500'	3/8"	0.062"	----
38960O	Orange	100'	3/8"	0.062"	----
38960OA	Orange	50'	3/8"	0.062"	----
38960G5	Green	500'	3/8"	0.062"	----
38960G	Green	100'	3/8"	0.062"	----
38960GA	Green	50'	3/8"	0.062"	----
38960R5	Red	500'	3/8"	0.062"	----
38960R	Red	100'	3/8"	0.062"	----

PART NUMBER	COLOR	LENGTH	NOMINAL O.D.	NOMINAL WALL	
38960RA	Red	50'	3/8"	0.062"	----
38960Y5	Yellow	500'	3/8"	0.062"	----
38960Y	Yellow	100'	3/8"	0.062"	----
38960YA	Yellow	50'	3/8"	0.062"	----
38965B5	Black	500'	1/2"	0.062"	----
38965	Black	100'	1/2"	0.062"	----
38965BA	Black	50'	1/2"	0.062"	----
38965U5	Blue	500'	1/2"	0.062"	----
38965U	Blue	100'	1/2"	0.062"	----
38965UA	Blue	50'	1/2"	0.062"	----
38965O5	Orange	500'	1/2"	0.062"	----
38965O	Orange	100'	1/2"	0.062"	----
38965OA	Orange	50'	1/2"	0.062"	----
38965G5	Green	500'	1/2"	0.062"	----
38965G	Green	100'	1/2"	0.062"	----
38965GA	Green	50'	1/2"	0.062"	----
38965R5	Red	500'	1/2"	0.062"	----
38965R	Red	100'	1/2"	0.062"	----
38965RA	Red	50'	1/2"	0.062"	----
38965Y5	Yellow	500'	1/2"	0.062"	----
38965Y	Yellow	100'	1/2"	0.062"	----
38965YA	Yellow	50'	1/2"	0.062"	----
38970BC	Black	250'	5/8"	0.092"	----
38970	Black	100'	5/8"	0.092"	----
38970BA	Black	50'	5/8"	0.092"	----
38970GC	Green	250'	5/8"	0.092"	----
38970G	Green	100'	5/8"	0.092"	----
38970GA	Green	50'	5/8"	0.092"	----
38970RC	Red	250'	5/8"	0.092"	----
38970R	Red	100'	5/8"	0.092"	----
38970RA	Red	50'	5/8"	0.092"	----
38975BC	Black	250'	3/4"	0.092"	----
38975	Black	100'	3/4"	0.092"	----
38975BA	Black	50'	3/4"	0.092"	----
38975GC	Green	250'	3/4"	0.092"	----
38975G	Green	100'	3/4"	0.092"	----
38975GA	Green	50'	3/4"	0.092"	----

**FUEL LINE AND AIR BRAKE HOSE**

TRUCK AND TRAILER

**FUEL LINE AND VAPOR EMISSION**

- SAE 30R7
- Nitrile tube w/ spiral synthetic cord, hypalon cover.
- 50 p.s.i. working pressure. 1/2 -35 PSI
- 40° F to + 257° F temperature range.
- Low pressure/ high temperature fuel for cars, light trucks, and small engines.
- Meets SAE J1402

PART #	ID	OD	LENGTH	
38920	3/16	13/32	25'	----
38926	5/16	9/16	25'	----
38923	1/4	1/2	25'	----
38927	3/8	5/8	50'	----

**AIR BRAKE HOSE**

- BLACK

- Spiral synthetic cord reinforcement with neoprene cover.
- 40° F to +200° F temperature range.
- Max opperating pressure 255 psi
- Max burst pressure 900 psi
- Meets SAE J1402

PART #	ID	OD	LENGTH	
38910	3/8	3/4	50'	----
38915	1/2	7/8	50'	----

**The Butterfly**

A man found a cocoon of a butterfly.

One day a small opening appeared. He sat and watched the butterfly for several hours as it struggled to force its body through that little hole.

Until it suddenly stopped making any progress and looked like it was stuck.

So the man decided to help the butterfly. He took a pair of scissors and snipped off the remaining bit of the cocoon. The butterfly then emerged easily, although it had a swollen body and small, shriveled wings.

The man didn't think anything of it and sat there waiting for the wings to enlarge to support the butterfly. But that didn't happen. The butterfly spent the rest of its life unable to fly, crawling around with tiny wings and a swollen body.

Despite the kind heart of the man, he didn't understand that the restricting cocoon and the struggle needed by the butterfly to get itself through the small opening; were God's way of forcing fluid from the body of the butterfly into its wings. To prepare itself for flying once it was out of the cocoon.

Moral of the story:

Our struggles in life develop our strengths. Without struggles, we never grow and never get stronger, so it's important for us to tackle challenges on our own, and not be relying on help from others.

- UNKNOWN

---

**HYDRAULIC ADAPTERS & ACCESSORIES**

---



STEEL ADAPTERS

HYDRAULIC QUICK  
DISCONNECTSHYDRAULIC VALVES &  
ACCESSORIES**Technical information ... 496****Profile size chart ..... 502**

Steel Pipe Swivels.....	504
37° JIC Flare Straights.....	506
37° JIC Flare Shapes.....	508
Bulkhead Adapters.....	510
Steel Pipe Fittings.....	512
O-Ring Adapters Straight .	517
JIC Swivels.....	519
O-Ring Adapters.....	520
O-Ring Face Seal.....	523
BSPT/ BSPP Adapters.....	527
Metric Adapters.....	529
Flange Adapters.....	536
Stainless Steel Adapters....	540
SS Hose Fittings.....	555

Thread to Connect - Wing	531
ISO A Interchange.....	531
ISO B Interchange.....	531
Flush Face ISO.....	532
VEP Series.....	532
AG Interchange.....	533
Hydraulic Jack Q/D.....	533

Flow Control Valve.....	534
Variable Flow Control.....	535
Air Breathers.....	535

**PLATING SPECIFICATION**

Our standard Trivalent, Cr<sup>+3</sup> plating performs at nearly double the S.A.E. corrosion resistance requirement. The plating meets ASTM B633, Fe/Zn 5. The thickness is 5um-13um. This plating is silver in appearance and has been testing at 96 hours to white rust and 120 hours to red rust.

---

**TECHNICAL INFORMATION**HYDRAULIC ADAPTERS

---

**TECHNICAL INFORMATION****WORKING PRESSURE**

The tables on the following pages list the recommended working pressure for a variety of hydraulic fittings made in accordance with certain industry standards. Many factors such as impulse, vibration, mechanical shock, and improper assembly may affect the integrity of the fitting connection.

We recommend sufficient testing be conducted to ensure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. Working pressure ratings are capable of a 4 to 1 minimum burst. All steel fittings meet or exceed the minimum SAE pressure ratings. Always consider application and maximum pressure requirements when selecting fittings.

---

**METHODS FOR INSTALLING FITTINGS**

There are three methods for installing a fitting:

- Torque wrench
- Flats From Wrench Resistance
- Turns From Finger Tight

For Flare and NPSM Fittings, we recommend the flats from wrench resistance method be used whenever possible.

The differences in material, plating, and surface finish impacts the coefficient of friction when installing or connecting fittings. To minimize these variances, we recommend that fitting connections are lubricated when installed. Connections that are lubricated provide a more accurate installation torque, which results in fewer leaks.

---

**USING A TORQUE WRENCH**

The torque values given in the tables on the following pages are for reference purposes only based on industry standard practice and for low carbon steel mating with steel/iron components. Actual torque values may need to be adjusted due to variances described above.

SAE recommends always making a wet (lubricated) installation or connection to reduce friction on moving parts, O-rings, and variances in material and plating. The torque values in these tables are based off SAE values using a .17 coefficient of friction as per SAE J2593. Many hydraulic leaks are a result of over-torque, which causes excessive deformation of material or exceeds the yield strength of the material, which may reduce the load or clamping force between seal contacts.

If more than one value or range is given, use the lower value first and increase only if required. Over-torquing can damage a fitting or mating component.

---

# TECHNICAL INFORMATION

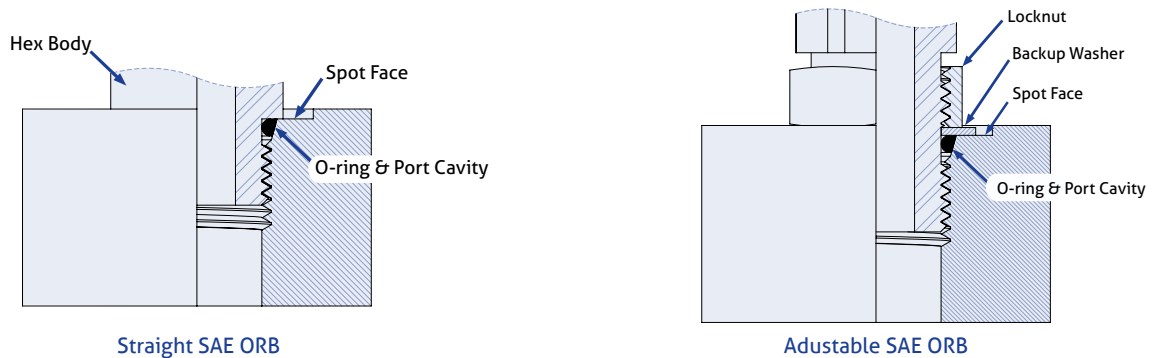
## HYDRAULIC ADAPTERS

### SAE O-Ring Boss Port Specifications

O-ring Boss ports (ORB) provide a seal by trapping the fitting's O-ring inside a port cavity. When a fitting is installed into the port, the O-ring is trapped between the fitting body hex or washer and port cavity.

Straight fittings include a hex, and sometimes an additional cylindrical shoulder below the hex and above the threads, to trap the O-ring in the port cavity.

Elbow and Tee fittings require a backup washer and a locknut above the O-ring on the threaded stud to permit a 360° orientation of the fitting around the port.



The following table lists the specifications for SAE O-Ring Boss Ports.

SAE O-Ring Boss Specifications								
Dash Size	Tube Size	Thread	SAE-ORB to JIC and Pipe Fittings*			SAE-ORB to ORFS Fittings**		
			Torque	Working Pressure		Torque	Working Pressure	
			Adjustable & Non-Adjustable	Adjustable	Non-Adjustable	Adjustable & Non-Adjustable	Adjustable	Non-Adjustable
			(ft-lbs) +25% -0%	(psi)	(psi)	(ft-lbs) +25% -0%	(psi)	(psi)
02	1/8	5/16-24	6	4500	4500	-	-	-
03	3/16	3/8-24	7	4500	4500	7	5800	9100
04	1/4	7/16-20	13	4500	4500	15	5800	9100
05	5/16	1/2-20	18	4500	4500	18	5800	9100
06	3/8	9/16-18	22	3600	4500	26	5800	9100
08	1/2	3/4-16	37	3600	4500	52	5800	9100
10	5/8	7/8-14	44	2900	3600	74	5800	9100
12	3/4	1-1/16-12	70	2900	3600	125	5800	5800
14	7/8	1-3/16-12	92	2300	2900	158	5800	5800
16	1	1-5/16-12	111	2300	2900	199	4500	5800
20	1 1/4	1-5/8-12	147	1800	2300	210	3600	3600
24	1 1/2	1-7/8-12	155	1800	2300	273	2900	3600
32	2	2-1/2-12	221	1450	1800	-	-	-

\* = Light duty studs included on JIC, NPTF and NPSM fittings per SAE J1926/3 & J514  
 \*\* = Heavy duty studs included on ORFS fittings per SAE J1926/2 & J1453

Note: Torque values are for wet torque and are allowed up to 25% the listed value according to SAE J2593.

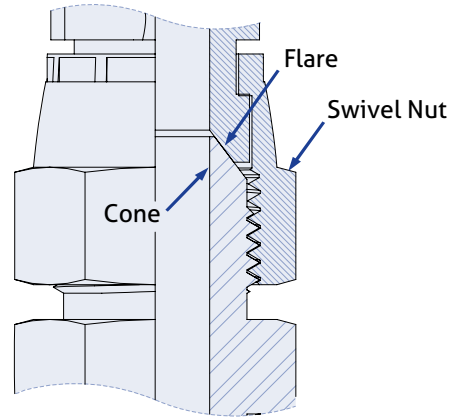
# TECHNICAL INFORMATION

## HYDRAULIC ADAPTERS

### JIC Adapter Specifications

Male flared fittings include a conical nose with external threads for clamping.

A flared fitting or tube assembly is tightened against the cone with a swivel nut. By forcing the flare against the cone during the torquing process, the nose cone is slightly deformed and meshes to create a metal to metal seal between the flare and the cone.



The following table lists the specifications for JIC adapters.

JIC Specifications							
Dash Size	Tube Size	Thread	Working Pressure		Torque		
			Male (psi)	Female Swivel Nut (psi)	JIC Rigid (FFWR)	JIC Swivel (FFWR)	Bulkhead Locknut (ft-lbs) +25% -0%
02	1/8	5/16-24	5000	5000	1/4 - 1/2	2	4
03	3/16	3/8-24	5000	5000	1/4 - 1/2	2	6
04	1/4	7/16-20	5000	4500	1/4 - 1/2	2	10
05	5/16	1/2-20	5000	4000	1/4 - 1/2	2	13
06	3/8	9/16-18	5000	4000	1/4 - 1/2	2	16
08	1/2	3/4-16	4500	4000	1/4 - 1/2	2	27
10	5/8	7/8-14	3500	3000	1/4 - 1/2	1 1/2	32
12	3/4	1-1/16-12	3500	3000	1/4 - 1/2	1 1/2	52
14	7/8	1-3/16-12	3000	2500	1/4 - 1/2	1 1/2	66
16	1	1-5/16-12	3000	2500	1/4 - 1/2	1 1/2	85
20	1 1/4	1-5/8-12	2500	2000	1/4 - 1/2	1	111
24	1 1/2	1-7/8-12	2000	1500	1/4 - 1/2	1	114
32	2	2-1/2-12	1500	1125	1/4 - 1/2	1	162

Values are per SAE J514

It has been my observation that most people get ahead during the time that others waste. -Henry Ford



# TECHNICAL INFORMATION

## HYDRAULIC ADAPTERS

### Pipe & Pipe Swivel Adapter Specifications

NPSM fittings include an inverted 60° cone inside an internally threaded swivel union nut. Male NPTF fittings that have a 30° internal chamfer that make a 60° inverted cone, will mate with NPSM swivel unions.

**NOTE: THE MATING MALE THREADS MUST INCLUDE AN INSIDE CHAMFER ON THE END OF THE FITTING THAT MATES WITH THE INVERTED CONE. THREADS ARE FOR CLAMPING FORCE ONLY AND THE SEALING OCCURS ON A SMALL RADIAL SECTION BETWEEN THE MALE FITTING INTERNAL CHAMFER AND THE SWIVEL UNION INVERTED CONE.**

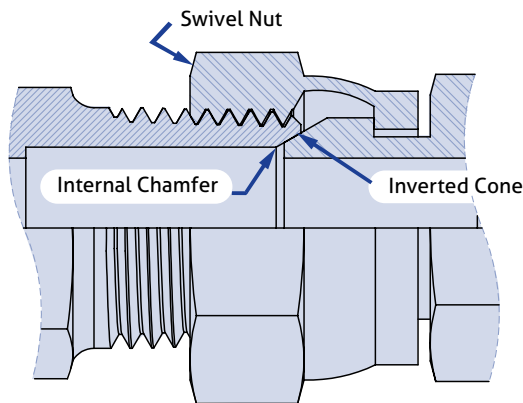


Figure 7 : NPTF & NPSM Union

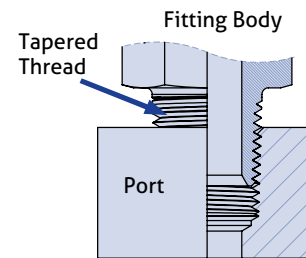


Figure 8: NPT & NPTF Assembly

NPT and NPTF pipe threads seal by wedging the tapered threads through deformation into each other. Both of these threads require thread sealants to complete a seal.

The following table lists the specifications for NPT, NPTF, and NPSM Pipe adapters.

NPT, NPTF, and NPSM Pipe Specifications						
Dash Size	Thread Size	Major OD* (inch)	Working Pressure		Torque	
			NPT, NPTF Male and Female	NPSM Female Swivel Nut	NPT, NPTF	NPSM Swivel Union
			(psi)	(psi)	(TFFT)	(FFWR)
02	1/8-27	.405	5000	5000	2-3	2
04	1/4-18	.540	4000	5000	2-3	2
06	3/8-18	.675	3000	4000	2-3	2
08	1/2-14	.84	3000	3500	2-3	2
12	3/4-14	1.050	2500	2250	2-3	2
16	1-11 1/2	1.315	2000	2000	1 1/2 - 2 1/2	1 1/2
20	1 1/4-11 1/2	1.660	1150	1625	1 1/2 - 2 1/2	1 1/2
24	1 1/2-11 1/2	1.900	1000	1250	1 1/2 - 2 1/2	1 1/2
32	2-11 1/2	2.375	1000	1125	1 1/2 - 2 1/2	1 1/2

Values are per SAE J514 & J2593

Table 3: NPT, NPTF, and NPSM Pipe Specifications

Folks who never do any more than they are paid for, never get paid for any more than they do.

-Elebert Hubbard

# TECHNICAL INFORMATION

## HYDRAULIC ADAPTERS

### O-ring Face Seal Adapter Specifications

O-ring face seal fittings include a precision groove in the face of the male fitting. Sealing occurs when an O-ring is trapped in the groove by a smooth flat flange that is clamped against the face with a nut or nut and sleeve. The flat flange may be formed or brazed onto the end of a tube, or is machined on a fitting.

There are two SAE groove types:

- Type A: The original style A O-ring has no retaining ledge.
- Type B: The Type B groove has a retaining ledge (half dovetail) that improves O-ring retention. The Type B style is more commonly found and is a design improvement over the Type A.

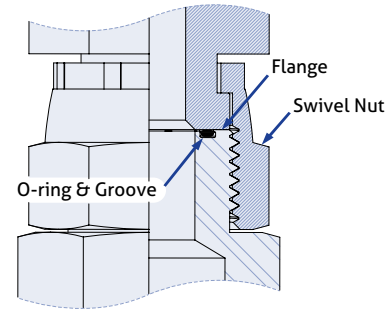


Figure 9: ORFS Fitting Assembly

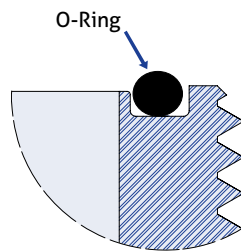


Figure 10: Detail View of Cross Section of Groove Type A

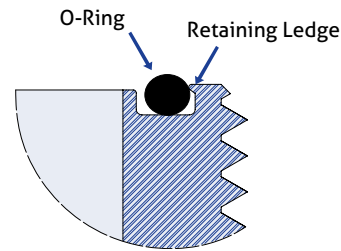


Figure 11: View of Groove Type B

The following table lists the specifications for O-ring Face Seal adapters.

ORFS Specifications								
Dash Size	Tube Size	Thread Size	Working Pressure		Torque			
			Male	Female Swivel Nut	Male & Female	Bulkhead Locknut	Tube Nuts	Swivel Nuts
			(psi)	(psi)	(ft-lbs) +25% -0%	(ft-lbs) +25% -0%	WR	FWR
04	1/4	9/16-18	6000	6000	18	16	1/4-1/2	1/2-3/4
06	3/8	11/16-16	6000	6000	29	22	1/4-1/2	1/2-3/4
08	1/2	13/16-16	6000	6000	41	29	1/4-1/2	1/2-3/4
10	5/8	1-14	6000	6000	44	44	1/4-1/2	1/2-3/4
12	3/4	1-3/16-12	6000	6000	66	66	1/4-1/2	1/3-1/2
16	1	1-7/16-12	6000	5000	92	92	1/4-1/2	1/3-1/2
20	1 1/4	1-11/16-12	4000	4000	125	111	1/4-1/2	1/3-1/2
24	1 1/2	2-12	4000	3000	147	125	1/4-1/2	1/3-1/2

Note: Values are per SAE J2593 & J1453

Torque values are for wet installation of steel components. Reduce torque values for softer material components.

Table 4: ORFS Specifications

# TECHNICAL INFORMATION

## HYDRAULIC ADAPTERS

### BSPT, BSPP and Metric Adapter Specifications

BSPT and Metric tapered threads install and work in the same manner as NPT and NPTF.

Male BSPP fittings include an inverted 60° cone inside an internally threaded swivel union nut. Male BSPP fittings that have a 30° internal chamfer that make a 60° inverted cone, will mate with Female BSPP swivel unions.

**NOTE: THE MATING MALE THREADS MUST INCLUDE AN INSIDE CHAMFER ON THE END OF THE FITTING THAT MATES WITH THE INVERTED CONE. THREADS ARE FOR CLAMPING FORCE ONLY AND THE SEALING OCCURS ON A SMALL RADIAL SECTION BETWEEN THE MALE FITTING INTERNAL CHAMFER AND THE SWIVEL UNION INVERTED CONE.**

DIN swivel unions have a 24° inverted cone and may be installed into DIN bite-ring compression fittings. To provide enhanced performance, an O-ring is sometimes included in the cone of some DIN swivel unions.

British Standard Pipe Parallel (BSPP) and Metric Parallel threaded ports do not include a port cavity like the O-ring Boss or ISO 6149 port. Instead, an O-ring sits on top of the spot face or external surface and is surrounded by a metal retaining ring or other retaining component to trap the O-ring between the fitting hex, body, and spot face.

Elbow and Tee fittings have a locknut, backup washer, O-ring and retaining washer to permit 360° orientation around the axis of the port.

The following table lists the specifications for **BSPP & BSPT Adapters**

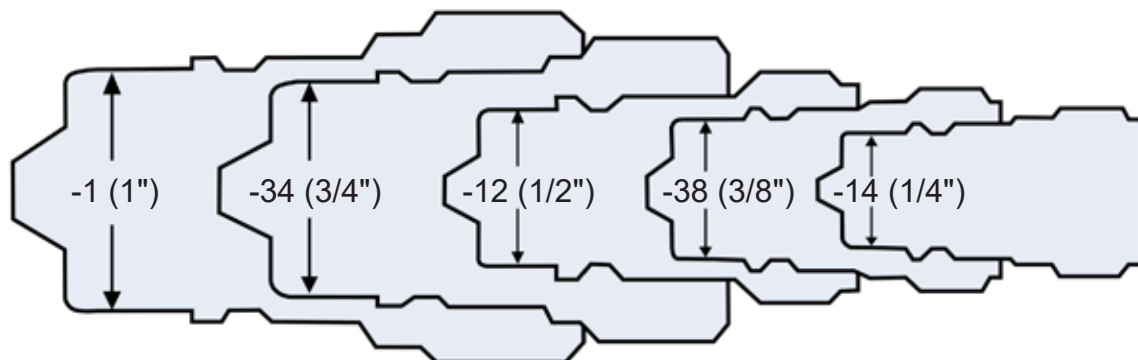
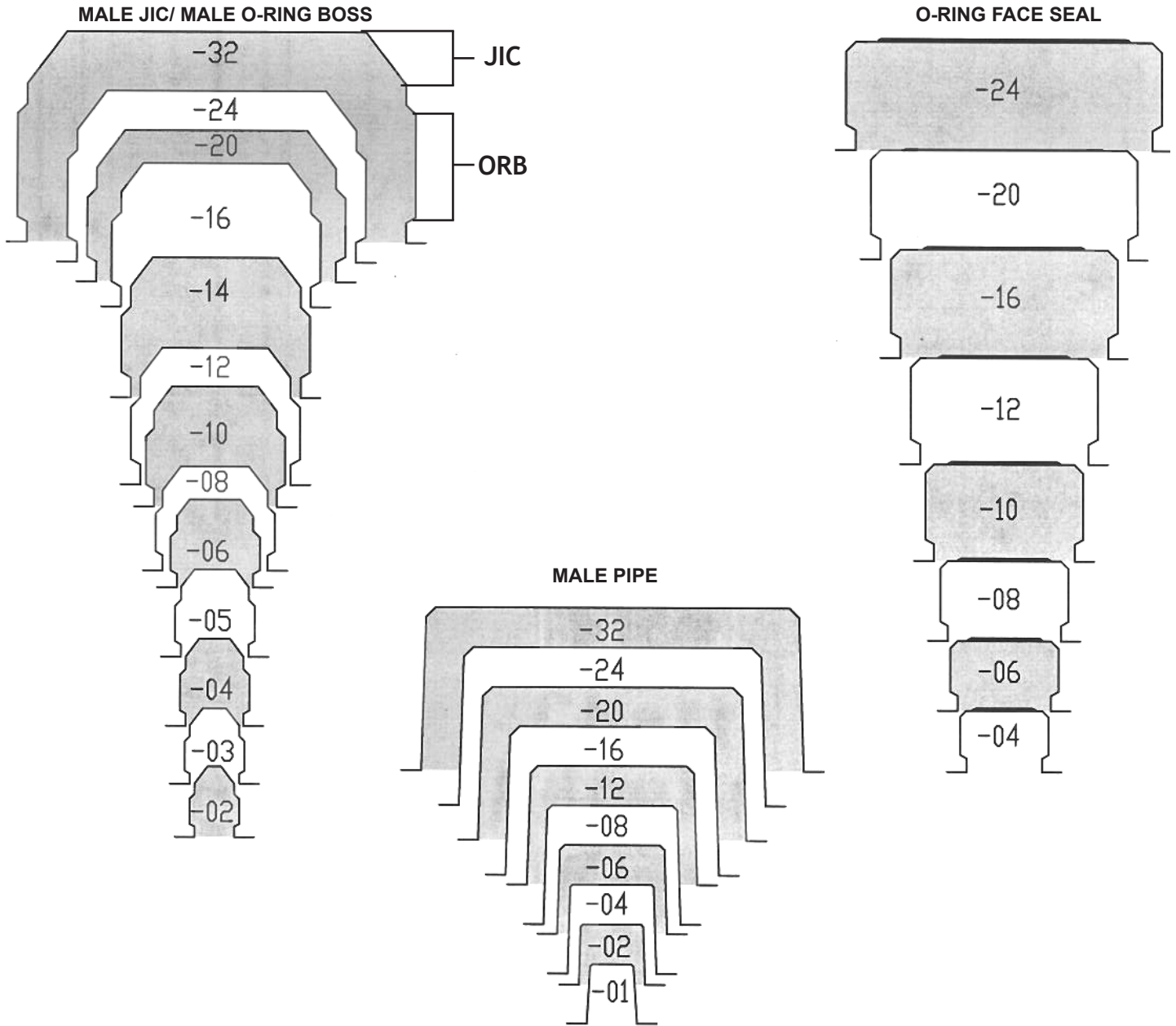
BSPP & BSPT Specifications				
Dash Size	BSPT & BSPP		Torque	
	THREAD SIZE	MAJOR OD <sup>o</sup> (inch)	BSPP Swivel Union	BSPT
02	1/8-28	0.383	2	2-3
04	1/4-19	0.518	2	2-3
06	3/8-19	0.656	2	2-3
08	1/2-14	0.825	2	2-3
10	5/8-14	0.929	2	2-3
12	3/4-14	1.041	2	2-3
16	1-11	1.309	1 1/2	1 1/2 - 2 1/2
20	1 1/4-11	1.650	1 1/2	1 1/2 - 2 1/2
24	1 1/2-11	1.882	1 1/2	1 1/2 - 2 1/2
32	2-11	2.347	1 1/2	1 1/2 - 2 1/2

The following table lists the specifications for **Metric Adapters**

Metric DIN 3852-1 Threads	
Dash Size	THREAD SIZE (mm)
08	8 x 1.0
10	10 x 1.0
12	12 x 1.5
14	14 x 1.5
16	16 x 1.5
18	18 x 1.5
20	20 x 1.5
22	22 x 1.5
24	24 x 1.5
26	26 x 1.5
27	27 x 2.0
30	30 x 2.0
33	33 x 2.0
39	39 x 2.0
42	42 x 2.0
48	48 x 2.0
60	60 X 2.0

Values are from DIN 3852-1

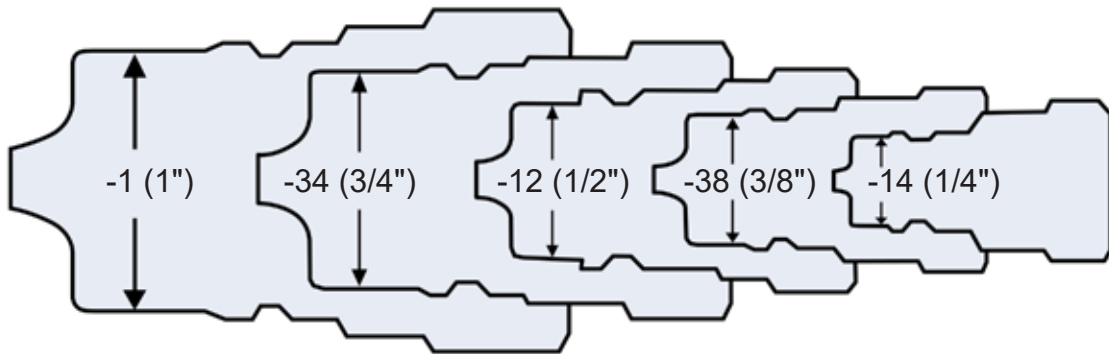
**PROFILE SIZE CHART**



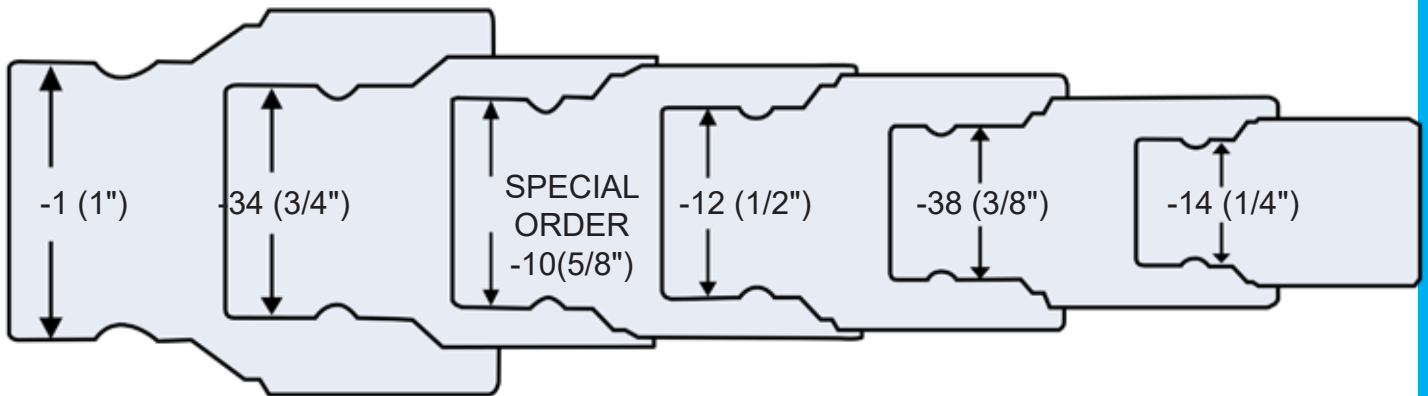
AG INTERCHANGE - NV SERIES

# TECHNICAL INFORMATION

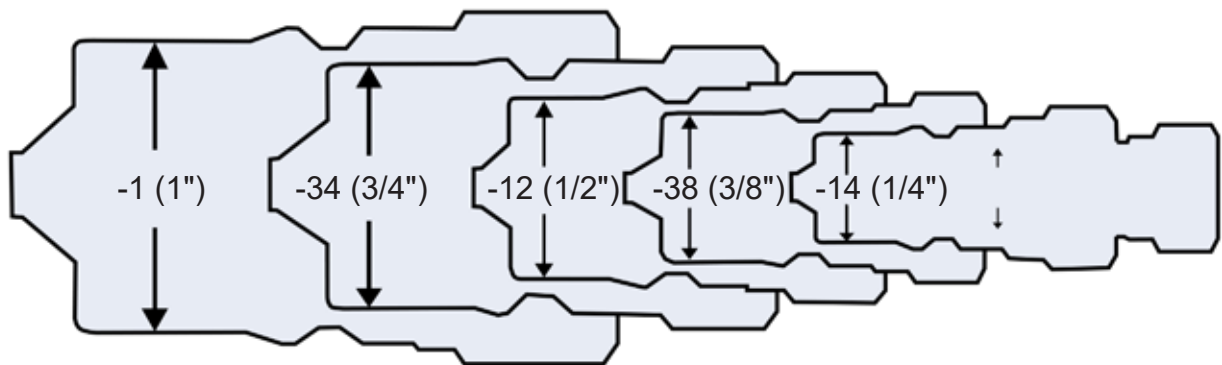
## HYDRAULIC ADAPTERS



ISO 7241 - 1 - ISO A - ANV SERIES



ISO 16028 - FF SERIES



ISO 7241 - 1 ISO B - HNV SERIES

# STEEL PIPE SWIVEL ADAPTERS

## HYDRAULIC ADAPTERS

### MALE PIPE SWIVEL ADAPTER

SAE 140130



PART #	MALE PIPE 1	FEMALE NPSM 2	
140422	1/8	1/8	----
140442	1/4	1/8	----
140444	1/4	1/4	----
140464	3/8	1/4	----
140466	3/8	3/8	----
140468	3/8	1/2	----
140484	1/2	1/4	----
140486	1/2	3/8	----
140488	1/2	1/2	----
1404812	1/2	3/4	----
1404126	3/4	3/8	----
1404128	3/4	1/2	----
14041212	3/4	3/4	----
14041216	3/4	1	----
14041612	1	3/4	----
14041616	1	1	----
14041620	1	1-1/4	----
14042024	1-1/4	1-1/2	----
14042016	1-1/4	1	----
14042020	1-1/4	1-1/4	----
14042424	1-1/2	1-1/2	----
14043232	2	2	----

1404 2045R 1210 9205R 0107

### FEMALE PIPE SWIVEL ADAPTER

SAE 140131



PART #	FEMALE PIPE 1	FEMALE NPSM 2	
140522	1/8	1/8	----
140542	1/4	1/8	----
140544	1/4	1/4	----
140546	1/4	3/8	----
140564	3/8	1/4	----
140566	3/8	3/8	----
140586	1/2	3/8	----
140568	3/8	1/2	----
140584	1/2	1/4	----
140588	1/2	1/2	----
1405812	1/2	3/4	----
1405128	3/4	1/2	----
14051212	3/4	3/4	----
14051216	3/4	1	----
14051612	1	3/4	----
14051616	1	1	----
14052020	1-1/4	1-1/4	----
14052424	1-1/2	1-1/2	----
14053232	2	2	----

1405 2046R 1212 9255 C207

### MALE PIPE ELBOW SWIVEL ADAPTER

SAE 140230



PART #	MALE PIPE 1	FEMALE NPSM 2	
150122	1/8	1/8	----
150124	1/8	1/4	----
150142	1/4	1/8	----
150144	1/4	1/4	----
150146	1/4	3/8	----
150148	1/4	1/2	----
150164	3/8	1/4	----
150166	3/8	3/8	----
1501612	3/8	3/4	----
150184	1/2	1/4	----
150186	1/2	3/8	----
150188	1/2	1/2	----
1501126	3/4	3/8	----
1501128	3/4	1/2	----
15011212	3/4	3/4	----
15011216	3/4	1	----
1501168	1	1/2	----
15011612	1	3/4	----
15011616	1	1	----
15012016	1-1/4	1	----
15012020	1-1/4	1-1/4	----
15013232	2	2	----

1501 2047R 1218 9405 2107

### FEMALE UNION ELBOW SWIVEL ADAPTER

SAE 140231



PART #	FEMALE PIPE 1	FEMALE NPSM 2	
150222	1/8	1/8	----
150242	1/4	1/8	----
150244	1/4	1/4	----
150246	1/4	3/8	----
150264	3/8	1/4	----
150266	3/8	3/8	----
150268	3/8	1/2	----
150284	1/2	1/4	----
150286	1/2	3/8	----
150288	1/2	1/2	----
1502812	1/2	3/4	----
1502128	3/4	1/2	----
15021212	3/4	3/4	----
15021616	1	1	----
15022020	1-1/4	1-1/4	----
15022424	1-1/2	1-1/2	----

1502 2207 1216 945SR

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# FEMALE PIPE SWIVELS

## HYDRAULIC ADAPTERS

### MALE 45° PIPE ELBOW SWIVEL ADAPTER

SAE 140330



PART #	MALE PIPE 1	FEMALE NPSM 2	
150322	1/8	1/8	----
150344	1/4	1/4	----
150346	1/4	3/8	----
150364	3/8	1/4	----
150366	3/8	3/8	----
150368	3/8	1/2	----
150384	1/2	1/4	----
150386	1/2	3/8	----
150388	1/2	1/2	----
1503812	1/2	3/4	----
1503128	3/4	1/2	----
15031212	3/4	3/4	----
15031216	3/4	1	----
15031612	1	3/4	----
15031616	1	1	----
15031620	1	1-1/4	----
15032020	1-1/4	1-1/4	----

1503 2049R 3107 1214 9355R

### FEMALE 45° UNION ELBOW SWIVEL ADAPTER

SAE 140331



PART #	FEMALE PIPE 1	FEMALE NPSM 2	
150422	1/8	1/8	----
150444	1/4	1/4	----
150466	3/8	3/8	----
150488	1/2	1/2	----
15041212	3/4	3/4	----
15041616	1	1	----

1504 2050R 1249 9385R

### MALE SWIVEL BRANCH TEE



PART #	FEMALE NPSM 1 & 2	MALE PIPE 3	
160122	1/8	1/8	----
160144	1/4	1/4	----
160166	3/8	3/8	----
160188	1/2	1/2	----
16011212	3/4	3/4	----
16011616	1	1	----

1601 2254R 1258 9406R

### FEMALE SWIVEL TEE



PART #	FEMALE NPSM 1 & 2	FEMALE PIPE 3	
160244	1/4	1/4	----
160266	3/8	3/8	----
160288	1/2	1/2	----
16021212	3/4	3/4	----
16021616	1	1	----

1602 2253R 1259 9456R

### FEMALE SWIVEL UNION TEE



PART #	FEMALE NPSM 1,2 & 3	
160344	1/4	----
160366	3/8	----
160388	1/2	----
16031212	3/4	----
16031616	1	----

1603 2255 1223 9705R

# STRAIGHTS STEEL JIC FLARE 37°

## HYDRAULIC ADAPTERS

### LONG JIC TUBE NUT

SAE 070111



PART #	TUBE O.D	JIC THREAD SIZE	
03044	1/4	7/16-20	----
03046	3/8	9/16-18	----
03048	1/2	3/4-16	----
030410	5/8	7/8-14	----
030412	3/4	1-1/16-12	----
030416	1	1-5/16-12	----

304 221000 0304 C5115

SAE 070112  
MS 51532



PART #	TUBE O.D.	JIC THREAD SIZE	
0304C2	1/8	5/16-24	----
0304C3	3/16	3/8-24	----
0304C4	1/4	7/16-20	----
0304C5	5/16	1/2-20	----
0304C6	3/8	9/16-18	----
0304C8	1/2	3/4-16	----
0304C10	5/8	7/8-14	----
0304C12	3/4	1-1/16-12	----
0304C14	7/8	1-3/16-12	----
0304C16	1	1-5/16-12	----
0304C20	1-1/4	1-5/8-12	----
0304C24	1-1/2	1-7/8-12	----
0304C32	2	2-1/2-12	----

820 304 210292 FNTX 1329 C5129

### JIC TUBE NUT

(SLEEVE REQUIRED)

SAE 070110  
MS 51531



PART #	TUBE O.D	JIC THREAD SIZE	
03182	1/8	5/16-24	----
03183	3/16	3/8-24	----
03184	1/4	7/16-20	----
03185	5/16	1/2-20	----
03186	3/8	9/16-18	----
03188	1/2	3/4-16	----
031810	5/8	7/8-14	----
031812	3/4	1-1/16-12	----
031814	7/8	1-3/16-12	----
031816	1	1-5/16-12	----
031820	1-1/4	1-5/8-12	----
031824	1-1/2	1-7/8-12	----

318 1290 BTX 1311 C5105

### JIC TUBE SLEEVE

SAE 070115  
MS 51533



PART #	TUBE O.D	
03192	1/8	----
03193	3/16	----
03194	1/4	----
03195	5/16	----
03196	3/8	----
03198	1/2	----
031910	5/8	----
031912	3/4	----
031914	7/8	----
031916	1	----
031920	1-1/4	----
031924	1-1/2	----
031932	2	----

319 900605 TX 1253 C5165

### JIC TUBE UNION

SAE 070101  
MS 51501



PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
240322	5/16-24	5/16-24	----
240333	3/8-24	3/8-24	----
240344	7/16-20	7/16-20	----
240355	1/2-20	1/2-20	----
240366	9/16-18	9/16-18	----
240364	9/16-18	7/16-20	----
240384	3/4-16	7/16-20	----
240388	3/4-16	3/4-16	----
240386	3/4-16	9/16-18	----
24031010	7/8-14	7/8-14	----
2403108	7/8-14	3/4-16	----
24031212	1-1/16-12	1-1/16-12	----
2403126	1-1/16-12	9/16-18	----
2403128	1-1/16-12	3/4-16	----
24031210	1-1/16-12	7/8-14	----
24031414	1-3/16-12	1-3/16-12	----
24031616	1-5/16-12	1-5/16-12	----
24031612	1-5/16-12	1-1/16-12	----
24032016	1-5/8-12	1-5/16-12	----
24032020	1-5/8-12	1-5/8-12	----
240324	1-7/8-12	1-7/8-12	----
240332	2-1/2-12	2-1/2-12	----

2403 2027 HTX 1204 C5305

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STRAIGHTS STEEL JIC FLARE 37°

## HYDRAULIC ADAPTERS

### JIC MALE CONNECTOR

SAE 070102  
MS 51500



PART #	JIC THREAD SIZE 1	MALE PIPE THREAD 2	
240422	5/16-24	1/8	----
240432	3/8-24	1/8	----
240434	3/8-24	1/4	----
240442	7/16-20	1/8	----
240444	7/16-20	1/4	----
240446	7/16-20	3/8	----
240448	7/16-20	1/2	----
240462	9/16-18	1/8	----
240464	9/16-18	1/4	----
240466	9/16-18	3/8	----
240468	9/16-18	1/2	----
2404612	9/16-18	3/4	----
240484	3/4-16	1/4	----
240486	3/4-16	3/8	----
240488	3/4-16	1/2	----
2404812	3/4-16	3/4	----
2404816	3/4-16	1	----
2404104	7/8-14	1/4	----
2404106	7/8-14	3/8	----
2404108	7/8-14	1/2	----
24041012	7/8-14	3/4	----
2404126	1-1/16-12	3/8	----
2404128	1-1/16-12	1/2	----
24041212	1-1/16-12	3/4	----
24041216	1-1/16-12	1	----
24041612	1-5/16-12	3/4	----
24041616	1-5/16-12	1	----
24041620	1-5/16-12	1-1/4	----
24041624	1-5/16-12	1-1/2	----
24042012	1-5/8-12	3/4	----
24042016	1-5/8-12	1	----
24042020	1-5/8-12	1-1/4	----
24042024	1-5/8-12	1-1/2	----
24042416	1-7/8-12	1	----
24042420	1-7/8-12	1-1/4	----
24042424	1-7/8-12	1-1/2	----
24042432	1-7/8-12	2	----
24043224	2-1/2-12	1-1/2	----
24043232	2-1/2-12	2	----

2404 2021R FTX 1202R C5205 816

### JIC FEMALE CONNECTOR

SAE 070103  
MS 51503



PART #	JIC THREAD SIZE 1	FEMALE PIPE SIZE 2	
240522	5/16-24	1/8	----
240532	3/8-24	1/8	----
240542	7/16-20	1/8	----
240544	7/16-20	1/4	----
240546	7/16-20	3/8	----
240564	9/16-18	1/4	----
240566	9/16-18	3/8	----
240584	3/4-16	1/4	----
240586	3/4-16	3/8	----
240588	3/4-16	1/2	----
2405812	3/4-16	3/4	----
2405106	7/8-14	3/8	----
2405108	7/8-14	1/2	----
2405128	1-1/16-12	1/2	----
24051212	1-1/16-12	3/4	----
24051216	1-1/16-12	1	----
24051612	1-5/16-12	3/4	----
24051616	1-5/16-12	1	----
24052020	1-5/8-12	1-1/4	----

2405 2022R GTX 1230R C5255

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STRAIGHTS STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

## JIC REDUCER/ EXPANDER

SAE 070123 1



2

PART #	FEMALE JIC THREAD SIZE 1	MALE JIC THREAD SIZE 2	
240664	9/16-18	7/16-20	----
240665	9/16-18	1/2-20	----
240668	9/16-18	3/4-16	----
240684	3/4-16	7/16-20	----
240686	3/4-16	9/16-18	----
2406812	3/4-16	1-1/16-12	----
2406104	7/8-14	7/16-20	----
2406106	7/8-14	9/16-18	----
2406108	7/8-14	3/4-16	----
2406124	1-1/16-12	7/16-20	----
2406126	1-1/16-12	9/16-18	----
2406128	1-1/16-12	3/4-16	----
24061210	1-1/16-12	7/8-14	----
24061216	1-1/16-12	1-5/16-12	----
2406164	1-5/16-12	7/16-20	----
2406166	1-5/16-12	9/16-18	----
2406168	1-5/16-12	3/4-16	----
24061612	1-5/16-12	1-1/16-12	----
24061620	1-5/16-12	1-5/8-12	----
2406208	1-5/8-12	3/4-16	----
24062012	1-5/8-12	1-1/16-12	----
24062012	1-5/8-12	1-1/16-12	----
24062016	1-5/8-12	1-5/16-12	----
24062416	1-7/8-12	1-5/16-12	----
24062420	1-7/8-12	1-5/8-12	----
24063224	2-1/2-12	1-7/8-12	----

2406 C5015 2215 TRTX 1246

## PLUG

SAE 070109  
MS 51518



PART #	TUBE O.D.	JIC THREAD SIZE	
24082	1/8	5/16-24	----
24083	3/16	3/8-24	----
24084	1/4	7/16-20	----
24085	5/16	1/2-20	----
24086	3/8	9/16-18	----
24088	1/2	3/4-16	----
240810	5/8	7/8-14	----
240812	3/4	1-1/16-12	----
240814	7/8	1-3/16-12	----
240816	1	1-5/16-12	----
240820	1-1/4	1-5/8-12	----
240824	1-1/2	1-7/8-12	----
240832	2	2-1/2-12	----

2408 430549 PNTX 1254 C5229

## STEEL 37° JIC FLARE SHAPES

### JIC UNION ELBOW

SAE 070201 1  
MS 51505



2

PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
250022	5/16-24	5/16-24	----
250044	7/16-20	7/16-20	----
250055	1/2-20	1/2-20	----
250066	9/16-18	9/16-18	----
250064	9/16-18	7/16-20	----
250088	3/4-16	3/4-16	----
250086	3/4-16	9/16-18	----
25001010	7/8-14	7/8-14	----
25001212	1-1/16-12	1-1/16-12	----
25001612	1-5/16-12	1-1/16-12	----
25001616	1-5/16-12	1-5/16-12	----
25002020	1-5/8-12	1-5/8-12	----
25002424	1-7/8-12	1-7/8-12	----
25003232	2-1/2-12	2-1/2-12	----

2500 2039 1234 C5505 821

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STRAIGHTS STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

## JIC MALE ELBOW

SAE 070202  
MS 51504

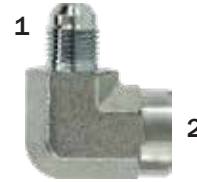


PART #	JIC THREAD SIZE 1	MALE PIPE SIZE 2	
250122	5/16-24	1/8	----
250142	7/16-20	1/8	----
250144	7/16-20	1/4	----
250146	7/16-20	3/8	----
250148	7/16-20	1/2	----
250162	9/16-18	1/8	----
250164	9/16-18	1/4	----
250166	9/16-18	3/8	----
250168	9/16-18	1/2	----
2501612	9/16-18	3/4	----
250184	3/4-16	1/4	----
250186	3/4-16	3/8	----
250188	3/4-16	1/2	----
2501812	3/4-16	3/4	----
2501816	3/4-16	1	----
2501106	7/8-14	3/8	----
2501108	7/8-14	1/2	----
2501128	1-1/16-12	1/2	----
25011212	1-1/16-12	3/4	----
25011216	1-1/16-12	1	----
25011612	1-5/16-12	3/4	----
25011616	1-5/16-12	1	----
25011620	1-5/16-12	1-1/4	----
25012016	1-5/8-12	1	----
25012020	1-5/8-12	1-1/4	----
25012024	1-5/8-12	1-1/2	----
25012420	1-7/8-12	1-1/4	----
25012424	1-7/8-12	1-1/2	----
25013232	2-1/2-12	2	----

1208R C5405 2501 2024R CTX 822

## JIC FEMALE ELBOW

SAE 070203  
MS 51506



PART #	JIC THREAD SIZE 1	FEMALE PIPE SIZE 2	
250242	7/16-20	1/8	----
250244	7/16-20	1/4	----
250246	7/16-20	3/8	----
250262	9/16-18	1/8	----
250264	9/16-18	1/4	----
250266	9/16-18	3/8	----
250268	9/16-18	1/2	----
250284	3/4-16	1/4	----
250286	3/4-16	3/8	----
250288	3/4-16	1/2	----
2502128	1-1/16-12	1/2	----
25021212	1-1/16-12	3/4	----
25021612	1-5/16-12	3/4	----
25021616	1-5/16-12	1	----
25022020	1-5/8-12	1-1/4	----

2502 2025R DTX 1240R C5455

## JIC MALE 45° ELBOW

SAE 070302  
MS 51508



PART #	JIC THREAD SIZE 1	MALE PIPE SIZE 2	
250322	5/16-24	1/8	----
250342	7/16-20	1/8	----
250344	7/16-20	1/4	----
250346	7/16-20	3/8	----
250362	9/16-18	1/8	----
250364	9/16-18	1/4	----
250366	9/16-18	3/8	----
250368	9/16-18	1/2	----
2503612	9/16-18	3/4	----
250384	3/4-16	1/4	----
250386	3/4-16	3/8	----
250388	3/4-16	1/2	----
2503106	7/8-14	3/8	----
2503108	7/8-14	1/2	----
25031012	7/8-14	3/4	----
25031212	1-1/16-12	3/4	----
25031216	1-1/16-12	1	----
25031616	1-5/16-12	1	----
25031620	1-5/16-12	1-1/4	----
25032016	1-5/8-12	1	----
25032020	1-5/8-12	1-1/4	----

2503 2023R VTX 1206R C5355 823

# SHAPES STEEL JIV FLARE 37°

## HYDRAULIC ADAPTERS

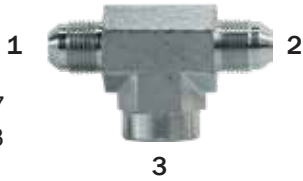
### JIC MALE BRANCH TEE



PART #	JIC THREAD SIZE 1&2	PIPE THREAD SIZE 3	
260144	7/16-20	1/4	----
260166	9/16-18	3/8	----
260188	3/4-16	1/2	----
26011212	1-1/16-12	3/4	----

2601 2030R STX 1221R C5605

### JIC FEMALE BRANCH TEE



SAE 070427  
MS 51513

PART #	JIC THREAD SIZE 1 & 2	FEMALE PIPE SIZE 3	
260244	7/16-20	1/4	----
260266	9/16-18	3/8	----
260288	3/4-16	1/2	----

2602 2031R OTX 1228R C6566

### JIC UNION TEE

SAE 070401  
MS 51510



PART #	JIC THREAD SIZE 1 & 2	JIC THREAD SIZE 3	
260322	5/16-24	5/16-24	----
260333	3/8-24	3/8-24	----
260344	7/16-20	7/16-20	----
260366	9/16-18	9/16-18	----
260388	3/4-16	3/4-16	----
26031010	7/8-14	7/8-14	----
26031212	1-1/16-12	1-1/16-12	----
26031616	1-5/16-12	1-5/16-12	----

2603 2033 JTX 1220 C5705

## STEEL BULKHEAD FITTINGS

### LOCK NUT



SAE 070118  
MS 51860

\* Lock Nut no longer included on fittings

PART #	THREAD SIZE	
03062	5/16-24	----
03064	7/16-20	----
03065	1/2-20	----
03066	9/16-18	----
03068	3/4-16	----
030610	7/8-14	----
030612	1-1/16-12	----
030614	1-3/16-12	----
030616	1-5/16-12	----
030620	1-5/8-12	----

1306 894 210212 WLN 1332 C5624

### JIC BULKHEAD UNION

SAE 070601  
MS 51520



PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
270022	5/16-24	5/16-24	----
270044	7/16-20	7/16-20	----
270055	1/2-20	1/2-20	----
270066	9/16-18	9/16-18	----
27008	3/4-16	3/4-16	----
270010	7/8-14	7/8-14	----
270012	1-1/16-12	1-1/16-12	----
270014	1-3/16-12	1-3/16-12	----
270016	1-5/16-12	1-5/16-12	----

2700 2041R WTX 1260 C5325

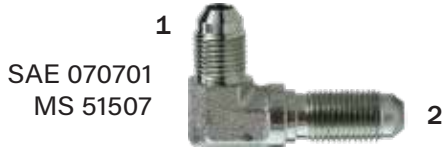

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL BULKHEAD FITTINGS

## HYDRAULIC ADAPTERS

### JIC BULKHEAD UNION ELBOW



SAE 070701  
MS 51507

PART #	JIC THREAD SIZE 1	JIC BULKHEAD THREAD 2	
27014	7/16-20	7/16-20	----
27015	1/2-20	1/2-20	----
27016	9/16-18	9/16-18	----
27018	3/4-16	3/4-16	----
270110	7/8-14	7/8-14	----
270112	1-1/16-12	1-1/16-12	----
270116	1-5/16-12	1-5/16-12	----
270120	1-5/8-12	1-5/8-12	----

2701 2043R WETX 1262 C5525

### JIC BULKHEAD UNION 45° ELBOW



SAE 070801  
MS 51509

PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
27024	7/16-20	7/16-20	----
27026	9/16-18	9/16-18	----
27028	3/4-16	3/4-16	----
270210	7/8-14	7/8-14	----
270212	1-1/16-12	1-1/16-12	----
270216	1-5/16-12	1-5/16-12	----

2702 2042 WNTX 1261 C5375

### JIC BULKHEAD BRANCH TEE

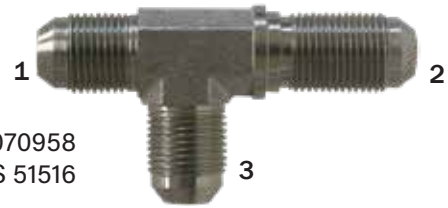


SAE 070959  
MS 51515

PART #	JIC THREAD SIZE 1&2	JIC THREAD SIZE 3	
27034	7/16-20	7/16-20	----
27036	9/16-18	9/16-18	----
27038	3/4-16	3/4-16	----
270310	7/8-14	7/8-14	----
270312	1-1/16-12	1-1/16-12	----
270316	1-5/16-12	1-5/16-12	----

2703 203002 WJT 1283 C5725

### JIC BULKHEAD RUN TEE



SAE 070958  
MS 51516

PART #	JIC THREAD SIZE 1&3	JIC THREAD SIZE 2	
27044	7/16-20	7/16-20	----
27046	9/16-18	9/16-18	----
27048	3/4-16	3/4-16	----
270410	7/8-14	7/8-14	----
270412	1-1/16-12	1-1/16-12	----
270416	1-5/16-12	1-5/16-12	----

2704 203008 WJJT 1284 C5726

### JIC TO FEMALE PIPE BULKHEAD



PART #	JIC THREAD	FEMALE PIPE SIZE 2	
270544	7/16-20	7/16-20	----
270566	9/16-18	3/8	----
270588	3/4-16	1/2	----
27051212	1-1/16-12	3/4	----
27051616	1-5/16-12	1	----
27052020	1-5/8-12	1-1/4	----

2705 2239 WGTX C5275

### JIC TO MALE PIPE BULKHEAD



PART #	JIC THREAD SIZE 1	PIPE THREAD SIZE 2	
270644	7/16-20	1/4	----
270666	9/16-18	3/8	----
270688	3/4-16	1/2	----
27061212	1-1/16-12	3/4	----
27061616	1-5/16-12	1	----

2706 2240

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* Lock Nuts sold separately - pg. 403

# STEEL PIPE FITTINGS

## HYDRAULIC ADAPTERS

### PIPE COUPLING

910

SAE 140138



PART #	FEMALE PIPE 1	FEMALE PIPE 2	
50002	1/8	1/8	----
500042	1/4	1/8	----
50004	1/4	1/4	----
500064	3/8	1/4	----
500066	3/8	3/8	----
500084	1/2	1/4	----
500086	1/2	3/8	----
50008	1/2	1/2	----
5000128	3/4	1/2	----
50001212	3/4	3/4	----
5000168	1	1/2	----
50001612	1	3/4	----
500016	1	1	----
50002020	1-1/4	1-1/4	----
500024	1-1/2	1-1/2	----
500032	2	2	----

5000 2096 GG 1273 C3309

### HEX PIPE NIPPLES

SAE 140137



PART #	MALE PIPE 1	MALE PIPE 2	
54042	1/8	1/8	----
540442	1/4	1/8	----
54044	1/4	1/4	----
540462	3/8	1/8	----
540464	3/8	1/4	----
54046	3/8	3/8	----
540484	1/2	1/4	----
540486	1/2	3/8	----
54048	1/2	1/2	----
5404126	3/4	3/8	----
5404128	3/4	1/2	----
540412	3/4	3/4	----
5404166	1	3/8	----
5404168	1	1/2	----
54041612	1	3/4	----
540416	1	1	----
54042012	1-1/4	3/4	----
54042016	1-1/4	1	----
540420	1-1/4	1-1/4	----
54042412	1-1/2	3/4	----
54042416	1-1/2	1	----
54042420	1-1/2	1-1/4	----
540424	1-1/2	1-1/2	----
54043224	2	1-1/2	----

5404 2083 FF 1252 C3069 911

### EXPANDING PIPE ADAPTER

SAE 140139



PART #	MALE PIPE 1	FEMALE PIPE 2	
540522	1/8	1/8	----
540524	1/8	1/4	----
540542	1/4	1/8	----
540544	1/4	1/4	----
540548	1/4	1/2	----
540564	3/8	1/4	----
540566	3/8	3/8	----
540568	3/8	1/2	----
5405612	3/8	3/4	----
540588	1/2	1/2	----
5405812	1/2	3/4	----
5405816	1/2	1	----
54051212	3/4	3/4	----
54051216	3/4	1	----
54051220	3/4	1-1/4	----
54051616	1	1	----
54051620	1	1-1/4	----
54052020	1-1/4	1-1/4	----
54052024	1-1/4	1-1/2	----
54052424	1-1/2	1-1/2	----

920 5405 2040 FG-(R) 1274 C3209(R)

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

5406 2081 PTR 1250 C3109 912

# STRAIGHTS STEEL JIC FLARE 37°

## HYDRAULIC ADAPTERS

### HEX REDUCER BUSHING

SAEF1  
140140



PART #	MALE PIPE	FEMALE PIPE	
540642	1/4	1/8	----
540662	3/8	1/8	----
540664	3/8	1/4	----
540682	1/2	1/8	----
540684	1/2	1/4	----
540686	1/2	3/8	----
5406124	3/4	1/4	----
5406126	3/4	3/8	----
5406128	3/4	1/2	----
5406164	1	1/4	----
5406166	1	3/8	----
5406168	1	1/2	----
54061612	1	3/4	----
5406206	1-1/4	3/8	----
5406208	1-1/4	1/2	----
54062012	1-1/4	3/4	----
54062016	1-1/4	1	----
5406248	1-1/2	1/2	----
54062412	1-1/2	3/4	----
54062416	1-1/2	1	----
54062420	1-1/2	1-1/4	----
54063212	2	3/4	----
54063216	2	1	----
54063220	2	1-1/4	----
54063224	2	1-1/2	----

### HEX HEAD PLUG

SAE 130109E



PART #	MALE PIPE	
5406P2	1/8	----
5406P4	1/4	----
5406P6	3/8	----
5406P8	1/2	----
5406P12	3/4	----
5406P16	1	----
5406P20	1-1/4	----
5406P24	1-1/2	----
5406P32	2	----

933 5406P 2082 HP 1251 C3159

### HOLLOW HEX PLUG

SAE 130109



PART #	MALE PIPE	
5406HHP2	1/8	----
5406HHP4	1/4	----
5406HHP6	3/8	----
5406HHP8	1/2	----
5406HHP12	3/4	----
5406HHP16	1	----
5406HHP20	1-1/4	----
5406HHP24	1-1/2	----

C3169 2222

### FLUSH HOLLOW HEX PLUG W/ 7/8 TAPER



PART #	MALE PIPE	
5406FLP2	1/8	----
5406FLP4	1/4	----
5406FLP6	3/8	----
5406FLP8	1/2	----
5406FLP12	3/4	----

### SQUARE HEAD PLUG

SAE 130109A



PART #	MALE PIPE	
5406SHP2	1/8	----
5406SHP4	1/4	----
5406SHP6	3/8	----
5406SHP8	1/2	----
5406SHP12	3/4	----
5406SHP16	1	----
5406SHP20	1-1/4	----
5406SHP24	1-1/2	----
5406SHP32	2	----

C3179

# STEEL PIPE FITTINGS

## HYDRAULIC ADAPTERS

### PIPE CAP



PART #	FEMALE PIPE	
5406C2	1/8	----
5406C4	1/4	----
5406C6	3/8	----
5406C8	1/2	----
5406C12	3/4	----
5406C16	1	----

HPC

### MALE ELBOW

SAE 140237



PART #	MALE PIPE 1	MALE PIPE 2	
55002	1/8	1/8	----
550042	1/4	1/8	----
55004	1/4	1/4	----
550064	3/8	1/4	----
55006	3/8	3/8	----
550084	1/2	1/4	----
550086	1/2	3/8	----
55008	1/2	1/2	----
5500128	3/4	1/2	----
55001212	3/4	3/4	----
55001612	1	3/4	----
550016	1	1	----
55001612	1	3/4	----
55002016	1-1/4	1	----
55002020	1-1/4	1-1/4	----
550024	1-1/2	1-1/2	----
550032	2	2	----

919 5500 2085 CR 1275 C3529

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL PIPE FITTINGS

## HYDRAULIC ADAPTERS

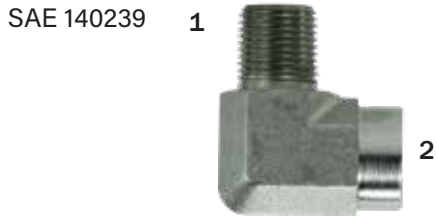
### 45° MALE ELBOW



PART #	MALE PIPE 1	MALE PIPE 2	
550122	1/8	1/8	----
550144	1/4	1/4	----
550166	3/8	3/8	----
55018	1/2	1/2	----
55011212	3/4	3/4	----
55011616	1	1	----

5501 2247

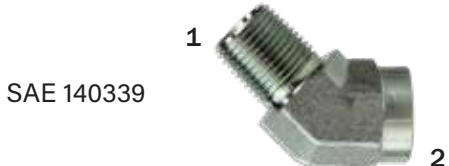
### 90° STREET ELBOW



PART #	MALE PIPE 1	FEMALE PIPE 2	
55022	1/8	1/8	----
55024	1/4	1/4	----
550264	3/8	1/4	----
55026	3/8	3/8	----
550268	3/8	1/2	----
550284	1/2	1/4	----
550286	1/2	3/8	----
550288	1/2	1/2	----
550212	3/4	3/4	----
5502812	1/2	3/4	----
5502128	3/4	1/2	----
55021612	1	3/4	----
55021616	1	1	----
550220	1-1/4	1-1/4	----
550224	1-1/2	1-1/2	----

5502 2089 CD 1234R C3409 914

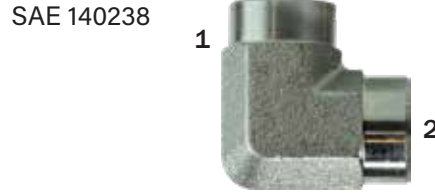
### 45° STREET ELBOW



PART #	MALE PIPE 1	FEMALE PIPE 2	
55032	1/8	1/8	----
55034	1/4	1/4	----
55036	3/8	3/8	----
55038	1/2	1/2	----
55031212	3/4	3/4	----
550316	1	1	----

5503 CD45 1244

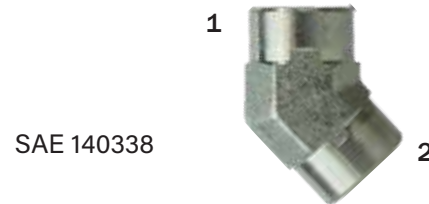
### FEMALE ELBOW



PART #	FEMALE PIPE 1	FEMALE PIPE 2	
55042	1/8	1/8	----
550442	1/4	1/8	----
55044	1/4	1/4	----
55046	3/8	3/8	----
550484	1/2	1/4	----
550486	1/2	3/8	----
55048	1/2	1/2	----
5504128	3/4	1/2	----
550412	3/4	3/4	----
55041612	1	3/4	----
550416	1	1	----
550420	1-1/4	1-1/4	----
550424	1-1/2	1-1/2	----

5504 2087 DD 1245 C3509 916

### 45° FEMALE ELBOW



PART #	FEMALE PIPE 1	FEMALE PIPE 2	
55054	1/4	1/4	----
55056	3/8	3/8	----
55058	1/2	1/2	----
550512	3/4	3/4	----
550516	1	1	----
550520	1-1/4	1-1/4	----

5505 DD45 1241 C3559

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL PIPE FITTINGS

## HYDRAULIC ADAPTERS

### MALE PIPE TEE

SAE 140437



PART #	MALE PIPE 1 & 2	MALE PIPE 3	
560022	1/8	1/8	----
560044	1/4	1/4	----
560066	3/8	3/8	----
560088	1/2	1/2	----
560012	3/4	3/4	----
560016	1	1	----

5600 2257 RRS

### FEMALE BRANCH PIPE TEE

SAE 140427



PART #	MALE PIPE 1 & 2	FEMALE PIPE 3	
560122	1/8	1/8	----
560144	1/4	1/4	----
560166	3/8	3/8	----
560112	3/4	3/4	----
560116	1	1	----

901 5601 2256

### STREET PIPE TEE

SAE 140424

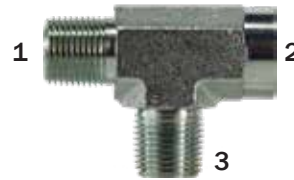


PART #	MALE PIPE 1	FEMALE PIPE 2 & 3	
560222	1/8	1/8	----
560244	1/4	1/4	----
560266	3/8	3/8	----
560288	1/2	1/2	----
560212	3/4	3/4	----
560216	1	1	----

902 5602 2092 MRO 1276 C3759

### FEMALE RUN PIPE TEE

SAE 1404276



PART #	MALE PIPE 1 & 3	FEMALE PIPE 2	
560322	1/8	1/8	----
560344	1/4	1/4	----
560366	3/8	3/8	----
560388	1/2	1/2	----
560312	3/4	3/4	----
560316	1	1	----

5603 2093 MMO 1277

### MALE BRANCH PIPE TEE



PART #	FEMALE PIPE 1 & 2	MALE PIPE 3	
560422	1/8	1/8	----
560444	1/4	1/4	----
560466	3/8	3/8	----
560488	1/2	1/2	----
560412	3/4	3/4	----
560416	1	1	----

904 5604 2091 MMS 1278 C3609

### FEMALE PIPE TEE

SAE 140438



PART #	FEMALE PIPE	
560522	1/8	----
560544	1/4	----
560566	3/8	----
56058	1/2	----
560512	3/4	----
560516	1	----
560520	1-1/4	----

917 5605 2090 1225 C3709

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL O-RING ADAPTERS

## HYDRAULIC ADAPTERS

### JIC TO O-RING CONNECTOR

SAE 070120  
MS 51525



PART #	JIC THREAD SIZE 1	O-RING THREAD 2	
64002	5/16-24	5/16-24	----
64003	3/8-24	3/8-24	----
64004	7/16-20	7/16-20	----
640042	7/16-20	5/16-24	----
640046	7/16-20	9/16-18	----
640048	7/16-20	3/4-16	----
64005	1/2-20	1/2-20	----
64006	9/16-18	9/16-18	----
640064	9/16-18	7/16-20	----
640068	9/16-18	3/4-16	----
6400610	9/16-18	7/8-14	----
6400612	9/16-18	1-1/16-12	----
6400616	9/16-18	1-5/16-12	----
64008	3/4-16	3/4-16	----
640084	3/4-16	7/16-20	----
640086	3/4-16	9/16-18	----
6400810	3/4-16	7/8-14	----
6400812	3/4-16	1-1/16-12	----
640010	7/8-14	7/8-14	----
6400106	7/8-14	9/16-18	----
6400108	7/8-14	3/4-16	----
64001012	7/8-14	1-1/16-12	----
640012	1-1/16-12	1-1/16-12	----
6400128	1-1/16-12	3/4-16	----
64001210	1-1/16-12	7/8-14	----
64001214	1-1/16-12	1-3/16-12	----
64001216	1-1/16-12	1-5/16-12	----
640016	1-5/16-12	1-5/16-12	----
64001612	1-5/16-12	1-1/16-12	----
64001620	1-5/16-12	1-5/8-12	----
64001624	1-5/16-12	1-7/8-12	----
640020	1-5/8-12	1-5/8-12	----
64002012	1-5/8-12	1-1/16-12	----
64002016	1-5/8-12	1-5/16-12	----
64002024	1-5/8-12	1-7/8-12	----
640024	1-7/8-12	1-7/8-12	----
64002420	1-7/8-12	1-5/8-12	----
64002432	1-7/8-12	2-1/2-12	----
640032	2-1/2-12	2-1/2-12	----
64003224	2-1/2-12	1-7/8-12	----

6400 202702R F50X 1231 C5315

### O-RING TO PIPE ADAPTER



PART #	O-RING THREAD 1	MALE PIPE THREAD 2	
640142	7/16-20	1/8	----
640144	7/16-20	1/4	----
640164	9/16-18	1/4	----
640166	9/16-18	3/8	----
640186	3/4-16	3/8	----
640188	3/4-16	1/2	----
6401812	3/4-16	3/4	----
6401108	7/8-14	1/2	----
6401128	1-1/16-12	1/2	----
64011212	1-1/16-12	3/4	----
64011616	1-5/16-12	1	----
64012020	1-5/8-12	1-1/4	----
64012020	1-5/8-12	1-1/4	----
64012424	1-7/8-12	1-1/2	----

6401 F5X 1264R C3249

### O-RING TO 37° JIC - SWIVEL ADAPTER



PART #	O-RING THREAD 1	JIC THREAD SIZE 2	
6402044	7/16-20	7/16-20	----
6402066	9/16-18	9/16-18	----
6402068	9/16-18	3/4-16	----
6402088	3/4-16	3/4-16	----
6402086	3/4-16	9/16-18	----
640201010	7/8-14	7/8-14	----
640201212	1-1/16-12	1-1/16-12	----

6402 2266 F65X 1213 9316

### O-RING HEX NIPPLE UNION



PART #	O-RING THRD 1	O-RING THRD 2	
640304	7/16-20	7/16-20	----
640306	9/16-18	9/16-18	----
640308	3/4-16	3/4-16	----
6403012	1-1/16-12	1-1/16-12	----
6403016	1-5/16-12	1-5/16-12	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL O-RING ADAPTERS

## HYDRAULIC ADAPTERS

### FEMALE O-RING TO MALE PIPE ADAPTER



PART #	O-RING THREAD 1	MALE PIPE THREAD 2	
640442	7/16-20	1/8	----
640444	7/16-20	1/4	----
640464	9/16-18	1/4	----
640466	9/16-18	3/8	----
640468	9/16-18	1/2	----
640486	3/4-16	3/8	----
640488	3/4-16	1/2	----
6404108	7/8-14	1/2	----
64041212	1-1/16-12	3/4	----
64041616	1-5/16-12	1	----

6404 2246R 1267R C3239 FHG5

### O-RING TO FEMALE PIPE ADAPTER



PART #	O-RING THREAD 1	FEMALE PIPE THREAD 2	
6405O22	5/16-24	1/8	----
6405O42	7/16-20	1/8	----
6405O32	3/8-24	1/8	----
6405O34	3/8-24	1/4	----
6405O44	7/16-20	1/4	----
6405O52	1/2-20	1/8	----
6405O54	1/2-20	1/4	----
6405O62	9/16-18	1/8	----
6405O64	9/16-18	1/4	----
6405O66	9/16-18	3/8	----
6405O68	9/16-8	1/2	----
6405O84	3/4-16	1/4	----
6405O86	3/4-16	3/8	----
6405O88	3/4-16	1/2	----
6405O812	3/4-16	3/4	----
6405O104	7/8-14	1/4	----
6405O106	7/8-14	3/8	----
6405O108	7/8-14	1/2	----
6405O126	1-1/16-12	3/8	----
6405O128	1-1/16-12	1/2	----
6405O1212	1-1/16-12	3/4	----
6405O1216	1-1/16-12	1	----
6405O1612	1-5/16-12	3/4	----
6405O1616	1-5/16-12	1	----
6405O2020	1-5/8-12	1-1/4	----
6405O2416	1-7/8-12	1	----
6405O2420	1-7/8-12	1-1/4	----
6405O2424	1-7/8-12	1-1/2	----
6405O3224	2-1/2-12	1-1/2	----
6405O3232	2-1/2-12	2	----

6405 2216R F50G 1268R C3269

### O-RING HEX HEAD PLUG

SAE 090109A



\* Not all sizes are solid

PART #	O-RING THREAD	
6408O2	5/16-24	----
6408O4	7/16-20	----
6408O5	1/2-20	----
6408O6	9/16-18	----
6408O8	3/4-16	----
6408O10	7/8-14	----
6408O12	1-1/16-12	----
6408O14	1-3/16-12	----
6408O16	1-5/16-12	----
6408O20	1-5/8-12	----
6408O24	1-7/8-12	----

6408 900598 P50N 1265 7237

### O-RING HOLLOW - HEX HEAD PLUG

SAE 090109B



PART #	O-RING THREAD	
6408HO2	5/16-24	----
6408HO4	7/16-20	----
6408HO5	1/2-20	----
6408HO6	9/16-18	----
6408HO8	3/4-16	----
6408HO10	7/8-14	----
6408HO12	1-1/16-12	----
6408HO14	1-3/16-12	----
6408HO16	1-5/16-12	----
6408HO20	1-5/8-12	----
6408HO24	1-7/8-12	----

6408HHP FF2138 HP50N 1256 7238 6409

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# FEMALE SWIVELS JIC

## HYDRAULIC ADAPTERS

### O-RING PORT REDUCER/EXPANDER



PART #	O-RING THREAD 1	O-RING THREAD 2	
6410O46	7/16-20	9/16-18	----
6410O64	9/16-18	7/16-20	----
6410O68	9/16-18	3/4-16	----
6410O84	3/4-16	7/16-20	----
6410O86	3/4-16	9/16-18	----
6410O88	3/4-16	3/4-16	----
6410O812	3/4-16	1-1/16-12	----
6410O124	1-1/16-12	7/16-20	----
6410O126	1-1/16-12	9/16-18	----
6410O128	1-1/16-12	3/4-16	----
6410O166	1-5/16-12	9/16-18	----
6410O168	1-5/16-12	3/4-16	----
6410O1612	1-5/16-12	1-1/16-12	----
6410O2012	1-5/8-12	1-1/16-12	----
6410O2016	1-5/8-12	1-5/16-12	----
6410O2412	1-7/8-12	1-1/16-12	----
6410O2416	1-7/8-12	1-5/16-12	----
6410O2420	1-7/8-12	1-5/8-12	----
6410O3216	2-1/2-12	1-5/16-12	----
6410O3220	2-1/2-12	1-5/8-12	----
6410O3224	2-1/2-12	1-7/8-12	----

6410 FF1010 F50G5 1270 7033

### JIC SWIVEL NUT ELBOW

SAE 070221  
MS 51521



PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
65004	7/16-20	7/16-20	----
65006	9/16-18	9/16-18	----
65008	3/4-16	3/4-16	----
650086	3/4-16	9/16-18	----
650010	7/8-14	7/8-14	----
6500108	7/8-14	3/4-16	----
650012	1-1/16-12	1-1/16-12	----
650016	1-5/16-12	1-5/16-12	----
650020	1-5/8-12	1-5/8-12	----
650024	1-7/8-12	1-7/8-12	----
650032	2-1/2-12	2-1/2-12	----

6500 2071R C6X 1236 G5506

### JIC SWIVEL TO MALE PIPE ELBOW



PART #	JIC THREAD SIZE 1	MALE PIPE THREAD 2	
650142	7/16-20	1/8	----
650144	7/16-20	1/4	----
650164	9/16-18	1/4	----
650166	9/16-18	3/8	----
650186	3/4-16	3/8	----
650188	3/4-16	1/2	----
6501108	7/8-14	1/2	----
65011212	1-1/16-12	3/4	----
65011616	1-5/16-12	1	----
65012020	1-5/8-12	1-1/4	----
65012424	1-7/8-12	1-1/2	----
65013232	2-1/2-12	2	----

6501 2250 1247R TF5406

### JIC SWIVEL 45° ELBOW

SAE 070321  
MS 51522



PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
65024	7/16-20	7/16-20	----
65026	9/16-18	9/16-18	----
65028	3/4-16	3/4-16	----
650210	7/8-14	7/8-14	----
650212	1-1/16-12	1-1/16-12	----
650216	1-5/16-12	1-5/16-12	----

### JIC SWIVEL TO FEMALE - PIPE ELBOW



PART #	JIC THREAD SIZE 1	FEMALE PIPE THREAD 2	
650344	7/16-20	1/4	----
650364	9/16-18	1/4	----
650366	9/16-18	3/8	----
650386	3/4-16	3/8	----
650388	3/4-16	1/2	----
65031212	1-1/16-12	3/4	----

6502 2070R V6X 1237 C5356

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FEMALE SWIVELS

## HYDRAULIC ADAPTERS

### JIC SWIVEL CONNECTOR



PART #	JIC THREAD SIZE 1	JIC THREAD SIZE 2	
650444	7/16-20	7/16-20	----
650466	9/16-18	9/16-18	----
650488	3/4-16	3/4-16	----
65041010	7/8-14	7/8-14	----
65041212	1-1/16-12	1-1/16-12	----
65041616	1-5/16-12	1-5/16-12	----
65042020	1-5/8-12	1-5/8-12	----

6504 1205

### JIC SWIVEL TO MALE - PIPE ADAPTER



PART #	JIC THREAD SIZE 1	MALE PIPE THREAD 2	
650542	7/16-20	1/8	----
650544	7/16-20	1/4	----
650546	7/16-20	3/8	----
650564	9/16-18	1/4	----
650566	9/16-18	3/8	----
650586	3/4-16	3/8	----
650588	3/4-16	1/2	----
6505128	1-1/16-12	1/2	----
65051212	1-1/16-12	3/4	----
65051612	1-5/16-12	3/4	----
65051616	1-5/16-12	1	----
65052424	1-7/8-12	1-1/2	----

6505 2018 F6X 1211 9100R

### JIC SWIVEL TO FEMALE PIPE ADAPTER



PART #	JIC THREAD SIZE 1	FEMALE PIPE THREAD 2	
650642	7/16-20	1/8	----
650644	7/16-20	1/4	----
650664	9/16-18	1/4	----
650666	9/16-18	3/8	----
650668	9/16-18	1/2	----
650686	3/4-16	3/8	----
650688	3/4-16	1/2	----
6506106	7/8-14	3/8	----
6506128	1-1/16-12	1/2	----
65061212	1-1/16-12	3/4	----
65061616	1-5/16-12	1	----
65062020	1-5/8-12	1-1/4	----
65062424	1-7/8-12	1-1/2	----
65063232	2-1/2-12	2	----

6506 2242 1215

### JIC SWIVEL BRANCH TEE

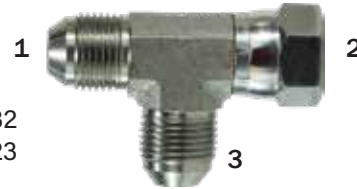


SAE 070433  
MS 51524

PART #	JIC THREAD SIZE 1 & 2	JIC FEMALE THREAD 3	
660044	7/16-20	7/16-20	----
660066	9/16-18	9/16-18	----
660088	3/4-16	3/4-16	----
660010	7/8-14	7/8-14	----
660012	1-1/16-12	1-1/16-12	----
660016	1-5/16-12	1-5/16-12	----
660020	1-5/8-12	1-5/8-12	----

6600 203101R 55X 1227 C5707

### JIC SWIVEL RUN TEE

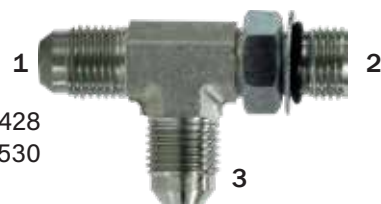


SAE 070432  
MS 51523

PART #	JIC THREAD SIZE 1 & 3	JIC FEMALE THREAD 2	
66024	7/16-20	7/16-20	----
66025	1/2-20	1/2-20	----
66026	9/16-18	9/16-18	----
66028	3/4-16	3/4-16	----
660212	1-1/16-12	1-1/16-12	----
660216	1-5/16-12	1-5/16-12	----
660224	1-7/8-12	1-7/8-12	----

6602 203102R R6X 1248 C5706

### JIC TO O-RING RUN TEE



SAE 070428  
MS 51530

PART #	JIC THREAD SIZE 1 & 3	O-RING THREAD SIZE 2	
6804NWO4	7/16-20	7/16-20	----
6804NWO6	9/16-18	9/16-18	----
6804NWO8	3/4-16	3/4-16	----
6804NWO10	7/8-14	7/8-14	----
6804NWO12	1-1/16-12	1-1/16-12	----
6804NWO16	1-5/16-12	1-5/16-12	----

6804 203005R R50X 1266R C5716

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



# STEEL O-RING ADAPTERS

## HYDRAULIC ADAPTERS

### JIC TO O-RING ELBOW CONNECTOR

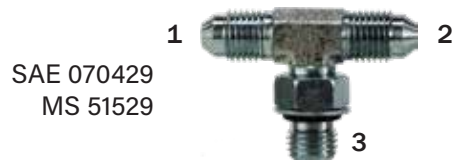


SAE 070220  
MS 51527

PART #	JIC THREAD SIZE 1	O-RING THREAD SIZE 2	
6801NWO4	7/16-20	7/16-20	----
6801NWO46	7/16-20	9/16-18	----
6801NWO48	7/16-20	3/4-16	----
6801NWO6	9/16-18	9/16-18	----
6801NWO64	9/16-18	7/16-20	----
6801NWO68	9/16-18	3/4-16	----
6801NWO612	9/16-18	1-1/16-12	----
6801NWO8	3/4-16	3/4-16	----
6801NWO86	3/4-16	9/16-18	----
6801NWO810	3/4-16	7/8-14	----
6801NWO812	3/4-16	1-1/16-12	----
6801NWO816	3/4-16	1-5/16-12	----
6801NWO10	7/8-14	7/8-14	----
6801NWO106	7/8-14	9/16-18	----
6801NWO108	7/8-14	3/4-16	----
6801NWO1016	7/8-14	1-5/16-12	----
6801NWO12	1-1/16-12	1-1/16-12	----
6801NWO128	1-1/16-12	3/4-16	----
6801NWO1210	1-1/16-12	7/8-14	----
6801NWO1216	1-1/16-12	1-5/16-12	----
6801NWO16	1-5/16-12	1-5/16-12	----
6801NWO1612	1-5/16-12	1-1/16-12	----
6801NWO1620	1-5/16-12	1-5/8-12	----
6801NWO20	1-5/8-12	1-5/8-12	----
6801NWO2016	1-5/8-12	1-5/16-12	----
6801NWO2024	1-5/8-12	1-7/8-12	----
6801NWO24	1-7/8-12	1-7/8-12	----
6801NWO32	2-1/2-12	2-1/2-12	----

6801 2062R C50X 1238L C5515

### JIC TO O-RING - BRANCH TEE



SAE 070429  
MS 51529

PART #	JIC THREAD SIZE 1 & 2	O-RING THREAD SIZE 3	
6803NWO4	7/16-20	7/16-20	----
6803NWO6	9/16-18	9/16-18	----
6803NWO8	3/4-16	3/4-16	----
6803NWO10	7/8-14	7/8-14	----
6803NWO12	1-1/16-12	1-1/16-12	----
6803NWO16	1-5/16-12	1-5/16-12	----

6803 203003X S50X 1265R C5715

### JIC TO O-RING 45° ELBOW



SAE 070320  
MS 51528

PART #	JIC THREAD SIZE 1	O-RING THREAD SIZE 2	
6802NWO2	5/16-24	5/16-24	----
6802NWO4	7/16-20	7/16-20	----
6802NWO46	7/16-20	9/16-18	----
6802NWO6	9/16-18	9/16-18	----
6802NWO68	9/16-18	3/4-16	----
6802NWO8	3/4-16	3/4-16	----
6802NWO86	3/4-16	9/16-18	----
6802NWO810	3/4-16	7/8-14	----
6802NWO812	3/4-16	1-1/16-12	----
6802NWO10	7/8-14	7/8-14	----
6802NWO108	7/8-14	3/4-16	----
6802NWO1012	7/8-14	1-1/16-12	----
6802NWO12	1-1/16-12	1-1/16-12	----
6802NWO1216	1-1/16-12	1-5/16-12	----
6802NWO16	1-5/16-12	1-5/16-12	----
6802NWO1612	1-5/16-12	1-1/16-12	----
6802NWO1620	1-5/16-12	1-5/8-12	----
6802NWO20	1-5/8-12	1-5/8-12	----
6802NWO2016	1-5/8-12	1-5/16-12	----
6802NWO24	1-7/8-12	1-7/8-12	----
6802NWO32	2-1/2-12	2-1/2-12	----

6802 2061 V50X 1240R C5365

### O-RING TO - FEMALE PIPE ELBOW



PART #	O-RING THREAD SIZE 1	PIPE THREAD SIZE 2	
6805NWO42	7/16-20	1/8	----
6805NWO44	7/16-20	1/4	----
6805NWO64	9/16-18	1/4	----
6805NWO66	9/16-18	3/8	----
6805NWO86	3/4-16	3/8	----
6805NWO88	3/4-16	1/2	----
6805NWO108	7/8-14	1/2	----
6805NWO128	1-1/16-12	1/2	----
6805NWO1212	1-1/16-12	3/4	----
6805NWO1616	1-5/16-12	1	----
6805NWO2020	1-5/8-12	1-1/4	----
6805NWO2424	1-7/8-12	1-1/2	----

6805 206801R AE0G 1264 C3459

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL O-RINGS

## HYDRAULIC ADAPTERS

### O-RING TO MALE PIPE ELBOW



PART #	O-RING THREAD SIZE 1	PIPE THREAD SIZE 2	
6806NWO44	7/16-20	1/4	----
6806NWO66	9/16-18	3/8	----
6806NWO88	3/4-16	1/2	----
6806NWO1212	1-1/16-12	3/4	----
6806NWO1616	1-5/16-12	1	----

6806 1263 TF3569

### O-RING TO 37° JIC SWIVEL NUT TO O-RING ELBOW



PART #	O-RING THREAD SIZE 1	JIC THREAD SIZE 2	
6809NWO44	7/16-20	7/16-20	----
6809NWO66	9/16-18	9/16-18	----
6809NWO88	3/4-16	3/4-16	----
6809NWO1212	1-1/16-12	1-1/16-12	----

### FEMALE O-RING TO MALE O-RING ELBOW



PART #	O-RING THREAD SIZE 1	O-RING THREAD SIZE 2	
6815NWO44	7/16-20	7/16-20	----
6815NWO66	9/16-18	9/16-18	----
6815NWO88	3/4-16	3/4-16	----
6815NWO1010	7/8-14	7/8-14	----
6815NWO1212	1-1/16-12	1-1/16-12	----

### MALE O-RING SWIVEL ADAPTER

SAE 140157



PART #	O-RING THREAD SIZE 1	FEMALE NPSM SIZE 2	
6900O42	7/16-20	1/8	----
6900O44	7/16-20	1/4	----
6900O46	7/16-20	3/8	----
6900O48	7/16-20	1/2	----
6900O64	9/16-18	1/4	----
6900O66	9/16-18	3/8	----
6900O68	9/16-18	1/2	----
6900O84	3/4-16	1/4	----
6900O86	3/4-16	3/8	----
6900O88	3/4-16	1/2	----
6900O812	3/4-16	3/4	----
6900O104	7/8-14	1/4	----
6900O106	7/8-14	3/8	----
6900O108	7/8-14	1/2	----
6900O1012	7/8-14	3/4	----
6900O128	1-1/16-12	1/2	----
6900O1212	1-1/16-12	3/4	----
6900O1612	1-5/16-12	3/4	----
6900O1616	1-5/16-12	1	----

6900 2066R 1235 9315

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



6401 2068R 1271 9515



# STEEL SAE O-RING

## HYDRAULIC ADAPTERS

### 90° O-RING SWIVEL ADAPTER



PART #	O-RING THREAD SIZE 1	FEMALE NPSM SIZE 2	
6901NWO42	7/16-20	1/8	----
6901NWO44	7/16-20	1/4	----
6901NWO64	9/16-18	1/4	----
6901NWO66	9/16-18	3/8	----
6901NWO68	9/16-18	1/2	----
6901NWO84	3/4-16	1/4	----
6901NWO86	3/4-16	3/8	----
6901NWO88	3/4-16	1/2	----
6901NWO812	3/4-16	3/4	----
6901NWO104	7/8-14	1/4	----
6901NWO106	7/8-14	3/8	----
6901NWO108	7/8-14	1/2	----
6901NWO126	1-1/16-12	3/8	----
6901NWO128	1-1/16-12	1/2	----
6901NWO1212	1-1/16-12	3/4	----
6901NWO1612	1-5/16-12	3/4	----
6901NWO1616	1-5/16-12	1	----
6901NWO2016	1-5/8-12	1	----
6901NWO2020	1-5/8-12	1-1/4	----
6901NWO2424	1-7/8-12	1-1/2	----
6901NWO3232	2-1/2-12	2	----

### 45° O-RING SWIVEL ADAPTER



PART #	O-RING THREAD SIZE 1	FEMALE NPSM SIZE 2	
6902NWO42	7/16-20	1/8	----
6902NWO44	7/16-20	1/4	----
6902NWO46	7/16-20	3/8	----
6902NWO64	9/16-18	1/4	----
6902NWO66	9/16-18	3/8	----
6902NWO68	9/16-18	1/2	----
6902NWO84	3/4-16	1/4	----
6902NWO86	3/4-16	3/8	----
6902NWO88	3/4-16	1/2	----
6902NWO108	7/8-14	1/2	----
6902NWO128	1-1/16-12	1/2	----
6902NWO1212	1-1/16-12	3/4	----
6902NWO1616	1-5/16-12	1	----

6902 2067R 1272 9365

## O-RINGS

### VITON 75 SAE BOSS O-RING



PART #	O-RING THREAD	
400122	5/16-24	----
400144	7/16-20	----
400166	9/16-18	----
400188	3/4-16	----
400110	7/8-14	----
400112	1-1/16-12	----
400116	1-5/16-12	----
400120	1-5/8-12	----
400124	1-7/8-12	----
400132	2-1/2-12	----

### NITRILE 90 SAE BOSS O-RING



PART #	O-RING THREAD	
400022	5/16-24	----
400044	7/16-20	----
400066	9/16-18	----
400088	3/4-16	----
400010	7/8-14	----
400012	1-1/16-12	----
400014	1-3/16-12	----
400016	1-5/16-12	----
400020	1-5/8-12	----
400024	1-7/8-12	----
400032	2-1/2-12	----

### BRAZE TUBE NUT (SLEEVE REQUIRED)



PART #	TUBE O.D.	BRAZE TUBE O.D.	
FSO3184	1/4	.25	----
FSO3186	3/8	.38	----
FSO3188	1/2	.50	----
FSO31810	5/8	.62	----
FSO31812	3/4	.72	----
FSO31816	1	1.00	----
FSO31820	1 1/4	1.25	----
FSO31824	1 1/2	1.50	----

FF318 FF1311

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# O-RING FACE SEAL ADAPTERS

## HYDRAULIC ADAPTERS

### BRAZE TUBE SLEEVE

SAE 520115



PART #	TUBE O.D.	
FSO3194	1/4	----
FSO3196	3/8	----
FSO3198	1/2	----
FSO31910	5/8	----
FSO31912	3/4	----
FSO31916	1	----
FSO31920	1-1/4	----

FF319 FF3019

See Page 414 for JIC Nut and Sleeve

### CAP

SAE 520112



• Two Piece Nut/ Insert

PART #	TUBE O.D.	FACE SEAL THREAD	
FSO304C4	1/4	9/16-18	----
FSO304C6	3/8	11/16-16	----
FSO304C8	1/2	13/16-16	----
FSO304C10	5/8	1-14	----
FSO304C12	3/4	1-3/16-12	----
FSO304C16	1	1-7/16-12	----
FSO304C20	1-1/4	1-11/16-12	----
FSO304C24	1-1/2	2-12	----

FF304C

### BULKHEAD LOCKNUT

SAE 520118



PART #	THREAD SIZE	
FSO3064	9/16-18	----
FSO3066	11/16-16	----
FSO3068	13/16-16	----
FSO30612	1-3/16-12	----
FSO30616	1-7/16-12	----

FF403

### MALE UNION CONNECTOR

SAE 520102



PART #	TUBE O.D.	FACE SEAL THREAD 1&2	
FSO240344	1/4	9/16-18	----
FSO240366	3/8	11/16-16	----
FSO240388	1/2	13/16-16	----
FSO24031212	3/4	1-3/16-12	----
FSO24031616	1	1-7/16-12	----

FF2403 FF1203

### MALE O-RING FACE SEAL ADAPTER



PART #	FACE SEAL THREAD 1	MALE PIPE SIZE 2	
FSO240444	9/16-18	1/4-18	----
FSO240446	9/16-18	3/8	----
FSO240464	11/16-16	1/4-18	----
FSO240466	11/16-16	3/8-18	----
FSO240484	13/16-16	1/4-18	----
FSO240486	13/16-16	3/8	----
FSO240488	13/16-16	1/2-14	----
FSO2404108	1-14	1/2	----
FSO24041212	1-3/16-12	3/4-14	----
FSO24041616	1-7/16-12	1-11/12	----
FSO24042020	1-11/16-12	1-1/4	----
FSO24042424	2-12	1-1/2	----

FF2404 4205 FLO

### FEMALE ORFS TO MALE ORFS REDUCER



PART #	FEMALE FACE SEAL SIZE 1	MALE FACE SEAL THREAD 2	
FSO240664	11/16-16	9/16-18	----
FSO240684	13/16-16	9/16-18	----
FSO2406106	1-14	11/16-16	----
FSO2406108	1-14	13/16-16	----
FSO2406126	1-3/16-12	11/16-16	----

FF2406 TRLON

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

# O-RING FACE SEAL ADAPTERS

## HYDRAULIC ADAPTERS

### PLUG

SAE 520109



PART #	TUBE O.D.	FACE SEAL THREAD	
FSO24084	1/4	9/16-18	----
FSO24086	3/8	11/16-16	----
FSO24088	1/2	13/16-16	----
FSO240810	5/8	1-14	----
FSO240812	3/4	1-3/8-12	----
FSO240816	1	1-7/16-12	----
FSO240820	1-1/4	1-11/16-12	----
FSO240824	1-1/2	2-12	----

FF2408 FF1254 4229 PNLO

### ORFS UNION ELBOW 90°



PART #	FACE SEAL THREAD 1	FACE SEAL THREAD 2	
FS250044	9/16-18	9/16-18	----
FS250066	11/16-16	11/16-16	----
FS25001010	1-14	1-14	----
FS25001212	1-3/16-12	1-3/16-12	----
FS25001616	1-7/16-12	1-7/16-12	----

FF2500 4505 ELO

### ORFS TO MALE ELBOW

SAE 520202



PART #	FACE SEAL THREAD 1	MALE PIPE THREAD 2	
FS250144	9/16-18	1/4	----
FS250164	11/16-16	1/4	----
FS250166	11/16-16	3/8	----
FS250186	13/16-16	3/8	----
FS250188	13/16-16	1/2	----
FS2501812	13/16-16	3/4	----
FS2501108	1-14	1/2	----
FS25011012	1-14	3/4	----
FS2501128	1-3/8-12	1/2	----
FS25011212	1-3/8-12	3/4	----
FS25011216	1-3/8-12	1	----
FS25011616	1-7/16-12	1	----
FS25012020	1-11/16-12	1-1/4	----
FS25012424	2-12	1-1/2	----

FF2501 FF1208 4405 CLO

### ORFS TO PIPE ELBOW 45°



PART #	FACE SEAL THREAD 1	MALE PIPE THREAD 2	
FS250344	9/16-18	1/4	----
FS250366	11/16-16	3/8	----
FS250388	13/16-16	1/2	----
FS25031212	1-3/16-12	3/4	----
FS25031616	1-7/16-12	1	----

FF2503 4355 VLO

### ORFS UNION TEE



PART #	FACE SEAL THREAD 1+2+3	
FS260344	9/16-18	----
FS260366	11/16-16	----
FS260388	13/16-16	----
FS26031212	1-3/16-12	----

### MALE FLAT FACE TO FEMALE 37° SWIVEL



PART #	FACE SEAL THREAD 1	JIC THREAD 2	
FS640244	9/16-18	7/16-20	----
FS640266	11/16-16	9/16-18	----
FS640288	13/16-16	3/4-16	----
FS64021010	1-14	7/8-14	----
FS64021212	1-3/16-12	1-1/16-12	----

FF6402 FF1294

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# O-RING FACE SEAL ADAPTERS

## HYDRAULIC ADAPTERS

### MALE ORFS TO ORB CONNECTOR

SAE 520120



PART #	FACE SEAL THREAD 1	O-RING THREAD 2	
FS6400O44	9/16-18	7/16-20	----
FS6400O46	9/16-18	9/16-18	----
FS6400O64	11/16-16	7/16-20	----
FS6400O66	11/16-16	9/16-18	----
FS6400O68	11/16-16	3/4-16	----
FS6400O86	13/16-16	9/16-18	----
FS6400O88	13/16-16	3/4-16	----
FS6400O810	13/16-16	7/8-14	----
FS6400O108	1-14	3/4-16	----
FS6400O1010	1-14	7/8-14	----
FS6400O1012	1-14	1-1/16-12	----
FS6400O128	1-3/16-12	3/4-16	----
FS6400O1210	1-3/16-12	7/8-14	----
FS6400O1212	1-3/16-12	1-1/16-12	----
FS6400O1216	1-3/16-12	1-5/16-12	----
FS6400O1612	1-7/16-12	1-1/16-12	----
FS6400O1616	1-7/16-12	1-5/16-12	----
FS6400O1620	1-7/16-12	1-5/8-12	----
FS6400O2020	1-11/16-12	1-5/8-12	----
FS6400O2024	1-11/16-12	1-7/8-12	----
FS6400O2424	2-12	1-7/8-12	----

4315 FF6400 FF1231

### SWIVEL NUT ELBOW



PART #	FACE SEAL THREAD 1	FACE SEAL THREAD 2	
FS650044	9/16-18	9/16-18	----
FS650066	11/16-16	11/16-16	----
FS650088	13/16-16	13/16-16	----
FS65001212	1-3/16-12	1-3/16-12	----

FF6500 FF1236

### MALE JIC 37° FLARE TO FEMALE FLAT FACE SWIVEL



PART #	JIC THREAD SIZE 1	FACE SEAL THREAD 2	
FS650444	7/16-20	9/16-18	----
FS650466	9/16-18	11/16-16	----
FS650488	3/4-16	13/16-16	----
FS65041010	7/8-14	1-14	----
FS65041616	1-5/16-12	1-7/16-12	----

FF6504 FF1296

### O-RING ELBOW CONNECTOR



PART #	FACE SEAL THREAD 1	O-RING THREAD 2	
FS680144	9/16-18	7/16-20	----
FS680146	9/16-18	9/16-18	----
FS680164	11/16-16	7/16-20	----
FS680166	11/16-16	9/16-18	----
FS680168	11/16-16	3/4-16	----
FS680186	13/16-16	9/16-18	----
FS680188	13/16-16	3/4-16	----
FS6801810	13/16-16	7/8-14	----
FS6801108	1-14	3/4-16	----
FS68011012	1-14	1-1/16-12	----
FS68011210	1-3/16-12	7/8-14	----
FS68011212	1-3/16-12	1-1/16-12	----
FS68011216	1-3/16-12	1-5/16-12	----
FS68011616	1-7/16-12	1-5/16-12	----
FS68011620	1-7/16-12	1-5/8-12	----
FS68012016	1-11/16-12	1-5/16-12	----
FS68012020	1-11/16-12	1-5/8-12	----
FS68012424	2-12	1-7/8-12	----

FF6801 FF1238 4515

### ORFS TO O-RING ELBOW 45°



PART #	FACE SEAL THREAD 1	O-RING SIZE 2	
FS680244	9/16-18	7/16-20	----
FS680266	11/16-16	9/16-18	----
FS680288	13/16-16	3/4-16	----
FS68021010	1-14	7/8-14	----
FS68021212	1-3/16-12	1-1/16-12	----
FS68021616	1-7/16-12	1-5/16-12	----
FS68022020	1-11/16-12	1-5/8-12	----

FF6802 4365 V5OLO

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.  
 For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL BSPT ADAPTERS

## HYDRAULIC ADAPTERS

### STRAIGHT THREAD SWIVEL NUT ELBOW



PART #	O-RING THREAD 1	FACE SEAL THREAD 2	
FS680944	7/16-20	9/16-18	----
FS680966	9/16-18	11/16-16	----
FS680988	3/4-16	13/16-16	----
FS68091212	1-1/16-12	1-3/16-12	----

FF6809 FF1239 4535 AOELC

### STEEL BSPT ADAPTERS

#### JIC MALE CONNECTOR BSPT



PART #	JIC THREAD SIZE 1	MALE BSPT 2	
700042	7/16-20	1/8-28	----
700044	7/16-20	1/4-19	----
700064	9/16-18	1/4-19	----
700066	9/16-18	3/8-19	----
700068	9/16-18	1/2-14	----
700086	3/4-16	3/8-19	----
700088	3/4-16	1/2-14	----
7000812	3/4-16	3/4-14	----
7000108	7/8-14	1/2-14	----
70001012	7/8-14	3/4-14	----
7000128	1-1/16-12	1/2-14	----
70001212	1-1/16-12	3/4-14	----
70001616	1-5/16-12	1-11	----

3404 305

#### JIC MALE ELBOW BSPT



PART #	JIC THREAD SIZE 1	MALE BSPT 2	
720042	7/16-20	1/8-28	----
720044	7/16-20	1/4-19	----
720064	9/16-18	1/4-19	----
720066	9/16-18	3/8-19	----
720068	9/16-18	1/2-14	----
720086	3/4-16	3/8-19	----
720088	3/4-16	1/2-14	----
72001212	1-1/16-12	3/4-14	----

3501 315

### BSPT HEX NIPPLE



PART #	MALE BSPT 1	MALE BSPT 2	
752022	1/8-28	1/8-28	----
752044	1/4-19	1/4-19	----
752066	3/8-19	3/8-19	----
752088	1/2-14	1/2-14	----
75201010	5/8-14	5/8-14	----
75201212	3/4-14	3/4-14	----

3520 MBT

### BSPT PLUG



PART #	BSPT	
95082	1/8-28	----
95084	1/4-19	----
95086	3/8-19	----
95088	1/2-14	----
950812	3/4-14	----
950816	1-11	----

100B-Y KA-RM MHL 296

### STEEL BSPP ADAPTERS

#### BSPP HEX NIPPLE



PART #	MALE BSPP 1	MALE BSPP 2	
742022	1/8-28	1/8-28	----
742042	1/4-19	1/8-28	----
742064	3/8-19	1/4-19	----
742066	3/8-19	3/8-19	----
742086	1/2-14	3/8-19	----
742088	1/2-14	1/2-14	----
7420108	5/8-14	1/2-14	----
7420128	3/4-14	1/2-14	----
74201212	3/4-14	3/4-14	----
74201612	1-11	3/4-14	----
74201616	1-11	1-11	----

3420 MB 9022

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL BSPP ADAPTERS

## HYDRAULIC ADAPTERS

### BSPP COUPLING



PART #	BSPP	
74252	1/8-28	----
74254	1/4-19	----
74258	1/2-14	----
742510	5/8-14	----
742512	3/4-14	----
742516	1-11	----

3425 FB

### JIC TO BSPP 45° ELBOW



PART #	JIC THREAD SIZE 1	MALE BSPP 2	
78024	7/16-20	1/4-19	----
78026	9/16-18	3/8-19	----
78028	3/4-16	1/2-14	----
780212	1-1/16-12	3/4-14	----
780216	1-5/16-12	1-11	----

3802 35J

### JIC TO FEMALE BSPP STRAIGHT SWIVEL



PART #	JIC THREAD SIZE 1	FEMALE BSPP SWIVEL 2	
72404	7/16-20	1/4-19	----
72406	9/16-18	3/8-19	----
72408	3/4-16	1/2-14	----
724010	7/8-14	5/8-14	----
724012	1-1/16-12	3/4-14	----
724016	1-5/16-12	1-11	----

3240 MJFBS

### BSPP TO MALE PIPE NIPPLE



PART #	MALE BSPP SIZE 1	MALE PIPE THREAD SIZE 2	
78252	1/8-28	1/8	----
78254	1/4-19	1/4	----
78256	3/8-19	3/8	----
78258	1/2-14	1/2	----
782512	3/4-14	3/4	----
782516	1-11	1	----

MBMP 3825

### JIC TO BSPP MALE ELBOW



PART #	JIC THREAD SIZE 1	MALE BSPP 2	
7202NWO42	7/16-20	1/8-28	----
7202NWO44	7/16-20	1/4-19	----
7202NWO64	9/16-18	1/4-19	----
7202NWO66	9/16-18	3/8-19	----
7202NWO68	9/16-18	1/2-14	----
7202NWO86	3/4-16	3/8-19	----
7202NWO88	3/4-16	1/2-14	----
7202NWO812	3/4-16	3/4-14	----
7202NWO108	7/8-14	1/2-14	----
7202NWO1212	1-1/16-12	3/4-14	----
7202NWO1216	1-1/16-12	1-11	----
7202NWO1616	1-5/16-12	1-11	----

3801 315

### JIC TO BSPP MALE CONNECTOR



PART #	JIC THREAD SIZE 1	MALE BSPP 2	
700242	7/16-20	1/8-28	----
700244	7/16-20	1/4-19	----
700246	7/16-20	3/8-19	----
700248	7/16-20	1/2-14	----
700264	9/16-18	1/4-19	----
700266	9/16-18	3/8-19	----
700268	9/16-18	1/2-14	----
700286	3/4-16	3/8-19	----
700288	3/4-16	1/2-14	----
7002812	3/4-16	3/4-14	----
7002108	7/8-14	1/2-14	----
70021212	1-1/16-12	3/4-14	----
70021216	1-1/16-12	1-11	----
70021616	1-5/16-12	1-11	----

30J 3800

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# STEEL BSPP ADAPTERS

## HYDRAULIC ADAPTERS

### JIC TO BSPP STRAIGHT SWIVEL



PART #	JIC THREAD SIZE 1	MALE BSPP 2	
702242	7/16-20	1/8-28	----
702244	7/16-20	1/4-19	----
702266	9/16-18	3/8-19	----
702288	3/4-16	1/2-14	----
7022108	7/8-14	1/2-14	----
70221212	1-1/16-12	3/4-14	----
70221616	1-5/16-12	1-11	----

3402 3055

### HEX HEAD PLUG BSPP



PART #	MALE BSPP	
9522P2	1/8-28	----
9522P4	1/4-19	----
9522P6	3/8-19	----
9522P8	1/2-14	----
9522P12	3/4-14	----
9522P16	1-11	----

3408

### HOLLOW HEX PLUG BSPP



PART #	MALE BSPP	
9522H2	1/8-28	----
9522H4	1/4-19	----
9522H6	3/8-19	----
9522H8	1/2-14	----
9522H12	3/4-14	----
9522H16	1-11	----

3408 HHP

### FEMALE ADAPTER BSPP



PART #	FEMALE PIPE 1	MALE BSPP 2	
704222	1/8	1/8-28	----
704242	1/4	1/8-28	----
704244	1/4	1/4-19	----
704266	3/8	3/8-19	----
704288	1/2	1/2-14	----
70421212	3/4	3/4-14	----
70421616	1	1-11	----

3455 MMFP

## STEEL METRIC ADAPTERS

### MALE CONNECTOR



PART #	JIC THREAD SIZE 1	METRIC THREAD 2	
7005410	7/16-20	10x1.0	----
7005412	7/16-20	12x1.5	----
7005414	7/16-20	14x1.5	----
7005418	7/16-20	18x1.5	----
7005512	1/2-20	12x1.5	----
7005514	1/2-20	14x1.5	----
7005614	9/16-18	14x1.5	----
7005616	9/16-18	16x1.5	----
7005618	9/16-18	18x1.5	----
7005816	3/4-16	16x1.5	----
7005818	3/4-16	18x1.5	----
7005822	3/4-16	22x1.5	----
70051018	7/8-14	18x1.5	----
70051020	7/8-14	20x1.5	----
70051022	7/8-14	22x1.5	----
70051222	1-1/16-12	22x1.5	----

Port-seal crush washer and O-ring included

7400 30J (R) 7011

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# STEEL METRIC ADAPTERS

## HYDRAULIC ADAPTERS

### MALE ELBOW



PART #	JIC THREAD SIZE 1	METRIC THREAD 2	
7205NWO410	7/16-20	10x1.0	----
7205NWO412	7/16-20	12x1.5	----
7205NWO414	7/16-20	14x1.5	----
7205NWO512	1/2-20	12x1.5	----
7205NWO614	9/16-18	14x1.5	----
7205NWO616	9/16-18	16x1.5	----
7205NWO816	3/4-16	16x1.5	----
7205NWO818	3/4-16	18x1.5	----
7205NWO822	3/4-16	22x1.5	----
7205NWO1018	7/8-14	18x1.5	----

Port-seal crush washer and O-ring included 7801 315 (R)



PART #	JIC THREAD SIZE 1	METRIC THREAD 2	
7025410	7/16-20	10x1.0	----
7025412	7/16-20	12x1.5	----
7025512	1/2-20	12x1.5	----
7025614	9/16-18	14x1.5	----
7025616	9/16-18	16x1.5	----
7025816	3/4-16	16x1.5	----
70251022	7/8-14	22x1.5	----
70251227	1-1/16-12	27x2.0	----
70251633	1-5/16-12	33x2.0	----

7402 30JS (R)

### HEX HEAD PLUG METRIC PARALLEL



PART #	METRIC THREAD	
8555P10	10x1.0	----
8555P12	12x1.5	----
8555P14	14x1.5	----
8555P16	16x1.5	----
8555P18	18x1.5	----
8555P20	20x1.5	----
8555P22	22x1.5	----
8555P26	26x1.5	----
8555P30	30x1.5	----

7408

### HOLLOW HEX HEAD PLUG



PART #	METRIC THREAD	
8555H10	10x1.0	----
8555H12	12x1.5	----
8555H14	14x1.5	----
8555H16	16x1.5	----
8555H18	18x1.5	----
8555H20	20x1.5	----
8555H22	22x1.5	----
8555H26	26x1.5	----
8555H30	30x1.5	----

7408 HHP

### FEMALE ADAPTER



PART #	FEMALE PIPE THREAD 1	METRIC THREAD 2	
7045210	1/8	10x1.0	----
7045412	1/4	12x1.5	----
7045414	1/4	14x1.5	----
7045612	3/8	12x1.5	----
7045616	3/8	16x1.5	----
7045618	3/8	18x1.5	----
7045816	1/2	16x1.5	----
7045818	1/2	18x1.5	----
7045822	1/2	22x1.5	----
70451227	3/4	27x2.0	----
70451633	1	33x2.0	----

MMFP (R)

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# ISO A AND B INTERCHANGE

## HYDRAULIC ADAPTERS



- Brass Body
- Steel Wing Nut
- Buna-Seal ( -40° to +250°F)

Aeroquip 5100  
Parker 6100  
Snaptite B78



- Bonded Face Seal
- External ORing Alleviates Full Connection

PART #	BODY SIZE	FEMALE NPT	MAX PSI		PART #	BODY SIZE	FEMALE NPT	MAX PSI	
61150	3/4	1/2	3000	----	61050	3/4	1/2	3000	----
61152	3/4	3/4	3000	----	61052	3/4	3/4	3000	----
61153	1	1	3000	----	61053	1	1	3000	----
61154	1-1/4	1-1/4	2750	----	61054	1-1/4	1-1/4	2750	----

### FEATURES - ISO A and ISO B

- Poppet valves to prevent uncoupled leakage
- Critical parts are induction hardened for durability
- Dependable ball-locking mechanism holds the mating halves together
- Socket and plug are precision machined from solid barstock
- Standard nitrile seals temp range -40°F to +250°F

Body Size	ISO 7241-1 ISO-A Interchange ( Connected )			
	Steel Coupler/ Plug			
	Maximum Working		Burst	
	PSI	Bar	PSI	Bar
1/4"	5,000	345	18,270	1,200
3/8"	4,000	275	18,270	1,200
1/2"	4,000	275	16,500	1,100
3/4"	4,000	275	14,800	1,000
1"	4,000	275	12,400	850

### INTERCHANGE DATA:

- Parker 6600, Aeroquip/ Eaton FD56, Dixon 'K' Series.
- Hansen HA 15000, Safeway S56



### ISO-A FEMALE PIPE COUPLER

PART #	BODY SIZE	NPT	
ANV14F	1/4"	1/4"	----
ANV38F	3/8"	3/8"	----
ANV12F	1/2"	1/2"	----
ANV34F	3/4"	3/4"	----
ANV1F	1"	1"	----

### ISO-A FEMALE PIPE PLUG

PART #	BODY SIZE	NPT	
ANV14M	1/4"	1/4"	----
ANV38M	3/8"	3/8"	----
ANV12M	1/2"	1/2"	----
ANV34M	3/4"	3/4"	----
ANV1M	1"	1"	----

Body Size	ISO 7241-1 Series B ISO-B Interchange ( Connected )							
	Steel Coupler/ Plug				Brass Coupler/ Plug			
	Max. Working		Burst		Max. Working		Burst	
	PSI	Bar	PSI	Bar	PSI	Bar	PSI	Bar
1/4"	5,000	345	22,500	1,550	3,000	200	15,000	1,000
3/8"	4,000	275	16,500	1,150	2,500	175	12,000	800
1/2"	4,000	275	16,000	1,100	2,500	175	11,500	750
3/4"	4,000	275	16,500	1,150	2,000	150	12,000	800
1"	4,000	275	16,000	1,100	1,500	100	8,500	800

### INTERCHANGE DATA:

- Parker 60 Series, Snap-tite 72 series, Dixon 'H' series
- Hansen HK - series, Aeroquip/ Eaton FDH5

### B=BRASS



BRASS - HNV SERIES PLUG



BRASS - HNV SERIES COUPLER

### ISO-B FEMALE PIPE COUPLER

PART #	BODY SIZE	NPT	
HNV14F	1/4"	1/4"	----
HNV14FB	1/4"	1/4"	----
HNV38F	3/8"	3/8"	----
HNV38FB	3/8"	3/8"	----
HNV12F	1/2"	1/2"	----
HNV12FB	1/2"	1/2"	----
HNV34F	3/4"	3/4"	----
HNV34FB	3/4"	3/4"	----

### ISO-B FEMALE PIPE PLUG

PART #	BODY SIZE	NPT	
HNV14M	1/4"	1/4"	----
HNV14MB	1/4"	1/4"	----
HNV38M	3/8"	3/8"	----
HNV38MB	3/8"	3/8"	----
HNV12M	1/2"	1/2"	----
HNV12MB	1/2"	1/2"	----
HNV34M	3/4"	3/4"	----
HNV34MB	3/4"	3/4"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# FLUSH FACE ISO

## HYDRAULIC ADAPTERS

### FEATURES

- Steel construction, zinc plated trivalent finish. Hardened Nipples and sleeves and solid barstock construction for maximum resistance to damage from hydraulic and mechanical shock.
- This Anti-Blowout Nitrile/ PTFE bonded seal is designed to prevent blow out or damage during severe service conditions.
- Durable ball-locking mechanism assures reliable connection everytime.
- Temp Range -65° to +250°

### ISO 16028

Body Size	FLUSH FACE			
	Steel Coupler/ Plug Coupled			
	Maximum Working		Burst	
	PSI	Bar	PSI	Bar
1/4"	5,000	345	18,270	1,200
3/8"	4,000	275	18,270	1,200
1/2"	4,000	275	16,500	1,100
5/8"	4,000	275	14,800	1,000
3/4"	4,000	275	12,400	850
1"	3,000	200	12,600	850

FF Series  
HTMC  
74C



### FEMALE PIPE COUPLER

PART #	BODY SIZE	NPT	
FF14F	1/4"	1/4"	----
FF38F	3/8"	3/8"	----
FF12F	1/2"	1/2"	----
FF3812F	3/8"	1/2"	----
FF1234F	1/2"	3/4"	----
FF3416F	3/4"	1"	----
FF34F	3/4"	3/4"	----
FF-1-F	1"	1"	----

FF Series  
HTMN  
74N



### FEMALE PIPE PLUG

PART #	BODY SIZE	NPT	
FF14M	1/4"	1/4"	----
FF38M	3/8"	3/8"	----
FF12M	1/2"	1/2"	----
FF3812M	3/8"	1/2"	----
FF1234M	1/2"	3/4"	----
FF3416M	3/4"	1"	----
FF34M	3/4"	3/4"	----
FF1M	1"	1"	----

## FLAT FACE THREAD LOCK - VEP QUICK COUPLING

### SPECIFICATIONS

BODY SIZE (IN)	1/2(12)	3/4(34)	1(1)	1-1/2(24)
Rated Pressure (PSI)	7000	7000	6000	5000
Rated Flow (GPM)	12	50	88	152
Temperature Range	-20°C +120°C			

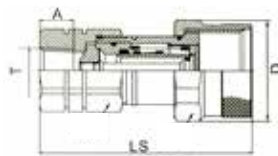
### APPLICATIONS

- Widely used in public equipment
- Portable construction equipment.
- Hydraulic tools
- Vehicles

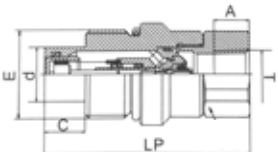
### FEATURES

- New valve design provides better resistance from high flow and the pressure of impulse, thus providing advanced performance.
- Special nipple design for connecting under pressure, allows connection and disconnection with high residual pressures.
- The LSQ-VEP series employs a threaded sleeve locking mechanism, mates with matching male threads on the coupler.
- New plating treatment provides advanced anti-rust performance.
- LSQ-VEP series couplings employ flush valving when connecting or disconnecting, therefore only a small amount of fluid can be lost during disconnecting or air inclusion during reconnection.
- The Anti-Blowout bonded seal is designed to prevent blow-out or damage during severe service conditions.
- Machined form solid steel barstock for durability. Compatible with most other VEP series.
- **O-Ring SAE Boss Thread available with import lead time (same list price)**

Test Fluid-Oil = 200 SUS



FEMALE COUPLER					
PART #	LS	D	A	NPT	
LSQVEP12SF	4.09	1.13	0.67	1/2	----
LSQVEP34SF	4.49	2.13	0.79	3/4	----
LSQVEP1SF	5.28	2.33	0.83	1	----
LSQVEP20SF	5.71	2.72	0.83	1-1/4	----
LSQVEP24SF	7.41	3.63	0.83	1-1/2	----



FEMALE PLUG					
PART #	LS	D	A	NPT	
LSQVEP12PF	4.09	1.13	0.67	1/2	----
LSQVEP34PF	4.49	2.13	0.79	3/4	----
LSQVEP1PF	5.28	2.33	0.83	1	----
LSQVEP20PF	5.71	2.72	0.83	1-1/4	----
LSQVEP24PF	7.41	3.63	0.83	1-1/2	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

# QUICK DISCONNECT - HYDRAULIC JACK

## HYDRAULIC ADAPTERS

Nominal Size	AG - Series Agricultural Interchange ( Connected )			
	Steel Coupler/ Plug			
	Maximum Working		Burst	
	PSI	Bar	PSI	Bar
1/4"	4,000	275	21,000	1,500
3/8"	4,000	275	23,100	1,600
1/2"	4,000	275	16,500	1,100
3/4"	3,000	200	10,300	700
1"	3,000	200	13,000	900

### Snap-Tite 60 Series



#### FEMALE PIPE COUPLER

Part #	Body Size	NPT	
NV14F	1/4"	1/4"	----
NV38F	3/8"	3/8"	----
NV12F	1/2"	1/2"	----
NV34F	3/4"	3/4"	----
NV1F	1"	1"	----

#### FEMALE PIPE PLUG

Part #	Body Size	NPT	
NV14M	1/4"	1/4"	----
NV38M	3/8"	3/8"	----
NV12M	1/2"	1/2"	----
NV34M	3/4"	3/4"	----
NV1M	1"	1"	----

### FEATURES

- Heavy duty heat treated poppet: valves are standard with rugged, specially-designed seals made of nitrite for leak-free performance in the toughest application.
- High-strength steel valve guides designed for high flow rates and made extra tough for agricultural service.
- Dependable hardened chrome alloy steel locking balls. Heat treated plugs and sleeves.
- Standard seals temp range -40°F to +250°F

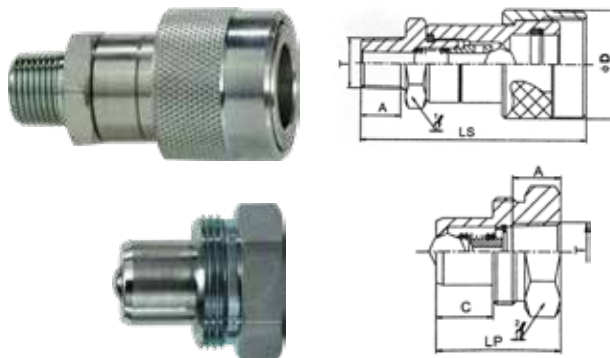
## THREAD LOCK HYDRAULIC JACK COUPLING

### SPECIFICATIONS

Body Size	1/4(14)	3/8(38)
Rated Pressure	10,000	
Rated Flow (GPM)	3	6
Temperature Range	-20°C +120°C	
Standard seal material is NBR		

### APPLICATIONS

- Thread lock couplings with their threaded union locking system and precision ball-type check valves are designed for extreme high pressure applications such as portable hydraulic jacks.
- **Ball Type.**



#### MALE COUPLER

PART #	LS	D	HEX	A	NPT	
KZEB14SM	2.40	1.14	0.87	0.55	1/4	----
KZEB38SM	2.91		0.98	0.57	3/8	----

#### FEMALE COUPLER

PART #	LS	D	HEX	A	NPT	
KZEB14PF	1.30	0.44	0.75	0.51	1/4	----
KZEB38PF	1.38	0.63	1.26	0.55	3/8	----

**WARNING:** This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# HYDRAULIC FLOW CONTROL/ NEEDLE VALVES

## HYDRAULIC ADAPTERS

### MM-FC SERIES FLOW CONTROL VALVES

**FEATURES:**

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

**TECHNICAL DATA:**

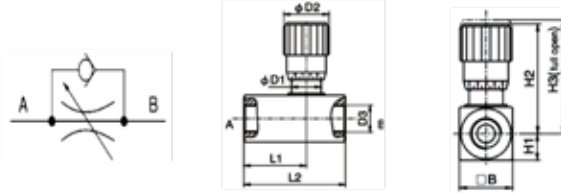
• Materials

Body: Carbon steel w/ black oxide plating  
 Handle: Zinc Alloy  
 Set Screw: Steel  
 Packing: Buna O-Ring/ PTFE stem packing

Maximum Pressure: 5000PSI  
 Temperature Ratings: -4°F to 176°F (-20°C to 80°C)  
 Flow Rate: 0-42 GPM



INLET  
 << FREE FLOW



Part#	B	D1	D2	D3	H1	H2	H3	L1	L2	WEIGHT (lbs)	
MMFC4NPT	1.10	0.76	1.18	1/4 NPT	0.55	2.41	2.67	1.54	2.52	0.90	----
MMFC6NPT	1.10	0.76	1.18	3/8 NPT	0.55	2.41	2.67	1.69	2.75	0.90	----
MMFC8NPT	1.50	0.95	1.46	1/2 NPT	0.75	3.07	3.41	2.05	3.27	2.00	----
MMFC12NPT	1.50	0.95	1.46	3/4 NPT	0.75	3.08	3.41	2.19	3.50	2.00	----
MMFC16NPT	1.89	1.38	1.89	1 NPT	0.94	4.03	4.50	2.79	4.60	4.20	----
MMFC20NPT	2.38	1.96	2.28	1-1/4 NPT	1.18	5.25	5.88	3.39	6.07	9.55	----

### MM-NV SERIES NEEDLE VALVES

**FEATURES:**

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

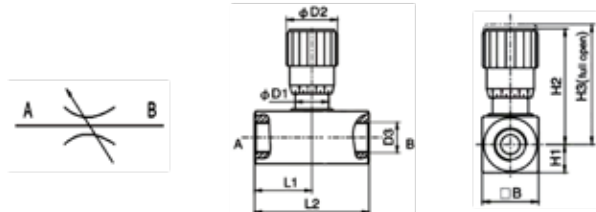
**TECHNICAL DATA:**

• Materials

Body: Carbon steel w/ black oxide plating  
 Handle: Zinc Alloy  
 Set Screw: Steel  
 Packing: Buna O-Ring/ PTFE stem packing

Maximum Pressure: 5000PSI  
 Temperature Ratings: -4°F to 176°F (-20°C to 80°C)  
 Flow Rate: 0-42 GPM

• FULL SHUT-OFF



Part#	B	D1	D2	D3	H1	H2	H3	L1	L2	WEIGHT (lbs)	
MMNV4NPT	1.10	0.76	1.18	1/4 NPT	0.55	2.41	2.67	1.07	2.13	0.90	----
MMNV6NPT	1.10	0.76	1.18	3/8 NPT	0.55	2.41	2.67	1.07	2.13	0.90	----
MMNV8NPT	1.50	0.95	1.46	1/2 NPT	0.75	3.07	3.41	1.34	2.38	2.00	----
MMNV12NPT	1.50	0.95	1.46	3/4 NPT	0.75	3.08	3.41	1.54	3.09	2.00	----
MMNV16NPT	1.89	1.38	1.89	1 NPT	0.94	4.03	4.50	1.81	3.62	4.20	----

**WARNING:** This product can expose you to chemicals, including cobalt, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)





# HYDRAULIC FLOW CONTROL/ BREATHERS

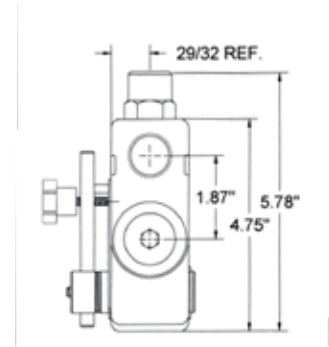
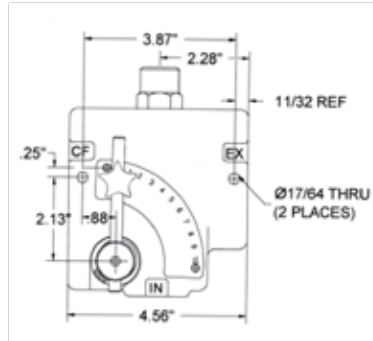
## HYDRAULIC ADAPTERS

### PRESSURE COMPENSATING VARIABLE FLOW CONTROL

#### FEATURES:

MFC-51 model is a full range pressure compensating variable flow control. It is designed so that the orifice area varies as the lever is rotated. The outlet flow is smooth and constant regardless of the pressure on the control flow or excess flow ports. An adjustable ball spring relief allows for pressure compensated flow up to the pressure setting on the relief. Relief valves are preset at 1500 PSI and field adjustable from 750 to 3000 PSI.

- Materials: Cast Iron Body, Heat Treated Compensator Spool, Stainless Steel Rotary Spool, Buna N "O" Rings (Standard)
- **ALL ARE STANDARD FLOW CONTROL**
- **ALL HAVE ADJUSTABLE BALL SPRING RELIEF**
- **SAE PORT AVAILABLE. MINIMUM ORDER REQUIRED**



Part#	Size	Flow	
MFC38N	3/8" - NPT	0-8 gpm	----
MFC12N	1/2" - NPT	0-16 gpm	----
MFC34N	3/4" - NPT	0-30 gpm	----

### SCREW-ON TYPE AIR BREATHERS



- Chrome Plated Steel
- 1/4 To 1 Inch NPT
- 40 Micron Breather

PART NUMBER	FLOW CFM	NPT	
MB4004	10	1/4	----
MB4006	10	3/8	----
MB4008	10	1/2	----
MB4012	25	3/4	----
MB4016	25	1	----

**WARNING:** This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**FLANGE ADAPTERS**

## HYDRAULIC ADAPTERS

**STEEL FLANGE ADAPTERS****CONFORMANCE**

- SAE J518

**MATERIALS**

- Steel per SAE J518 with either black phosphate finish or plated zinc finish or iridite dip. Stainless Steel available upon request.

**WORKING PRESSURES**

The following table lists the recommended working pressures for steel Four-bolt Solid and Split Flange Fittings and Hose Ends manufactured in accordance with SAE standards J518 and J517. SAE recommends sufficient testing to be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using Flanged Fittings that have a threaded connection on one end, use the lower pressure rating of the two.

**Caution: Although many Four-bolt Flanged Fittings have sufficient structural integrity to support the weight of many components, we recommend consulting with our technical support department for guidance in selection of parts for this purpose.**

**SAE J518 FOUR-BOLT CODE 61  
FLANGE PRESSURE RATINGS**

Dash Size	Flange Head OD Inches	4 TO 1 Minimum Burst PSI
-8	1-3/16 - 1.188	5000
-12	1-1/2 - 1.500	5000
-16	1-3/4 - 1.750	5000
-20	2 - 2.000	4000
-24	2-3/8 - 2.375	3000
-32	2-13/16 - 2.812	3000
-40	3-5/16 - 3.312	2500
-48	4 - 4.000	2000
-56	4-1/2 - 4.500	500
-64	5 - 5.000	500
-80	6 - 6.000	500

**SAE J518 FOUR-BOLT CODE 62  
FLANGE PRESSURE RATINGS**

Dash Size	Flange Head OD Inches	4 TO 1 Minimum Burst PSI
-8	1-1/4 - 1.250	6000
-12	1-5/8 - 1.625	6000
-16	1-7/8 - 1.875	6000
-20	2-1/8 - 2.125	6000
-24	2-1/2 - 2.500	6000
-32	3-1/8 - 3.125	6000

**STEEL FLANGE ADAPTERS  
ASSEMBLY INSTRUCTIONS****RECOMMENDED SOLID FOUR-BOLT**

- Step 1.** Inspect port area to be smooth and free of nicks, burrs, scratches, or contaminants.
- Step 2.** Lubricate the o-ring and place in flange head groove.
- Step 3.** Lubricate screw threads, slip lock washers onto screws, and insert screws into flange
- Step 4.** Position flange on port and finger tighten all screws.
- Step 5.** Torque the screws in a figure eight sequence, incrementally until the appropriate torque value in the following table is achieved.

**J518 CODE 61 AND CODE 62  
FLANGE MINIMUM TORQUE VALUES**

Dash Size	Port Size	Code 61 Foot/Lbs.	Code 62 Foot/Lbs.
-8	1/2"	15-19	15-19
-12	3/4"	20-29	25-33
-16	1"	27-35	41-50
-20	1-1/4"	35-46	62-75
-24	1-1/2"	46-58	116-133
-32	2"	53-67	200-217
-40	2-1/2"	79	NA
-48	3"	137	NA
-56	3-1/2"	116	NA
-64	4"	116	NA
-80	5"	116	NA

**RECOMMENDED SPLIT FOUR-BOLT**

- Step 1.** Follow steps 1 through 3 above, then proceed to the following steps.
- Step 2.** Position both flanges on port and turn one screw in each flange about three turns.
- Step 3.** Rotate each flange away from the port for sufficient clearance to position hose or fitting flange head on port.
- Step 4.** Close each flange until it properly captures flange head. Insert remaining screws and finger tighten.
- Step 5.** Torque the screws in a figure eight sequence incrementally until the appropriate torque value in the preceding table is achieved.

**WHY WET TORQUE?**

Due to the difference in plating types and thickness, materials, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Overtightening causes threads to yield, deform and lose their ability to maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks. Overtightening is the single greatest cause for leaks in metal to metal seat hydraulic connections. It is our firm position, that to not wet torque, is to compromise consistency and quality for convenience.

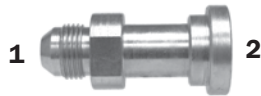
# FLANGE ADAPTERS

## HYDRAULIC ADAPTERS

### JIC FLANGE ADAPTER

CODE 61

6840  
503



3000 PSI

PART #	JIC THREAD SIZE 1	FLANGE SIZE 2	
170088	3/4-16	1/2	----
1700812	3/4-16	3/4	----
17001212	1-1/16-12	3/4	----
17001216	1-1/16-12	1	----
17001616	1-5/16-12	1	----
17001620	1-5/16-12	1-1/4	----
17001624	1-5/16-12	1-1/2	----
17002016	1-5/8-12	1	----
17002020	1-5/8-12	1-1/4	----
17002032	1-5/8-12	2	----
17002424	1-7/8-12	1-1/2	----
17003232	2-1/2-12	2	----
17002024	1-5/8-12	1-1/2	----
17002420	1-7/8-12	1-1/4	----
17001612	1-5/16-12	3/4	----
17002432	1-7/8-12	2	----

6840 503

### JIC FLANGE 450 ADAPTER

CODE 61

6845  
505



3000 PSI

Part #	JIC Thread Size 1	Flange Size 2	
170388	3/4-16	1/2	----
1703812	3/4-16	3/4	----
17031212	1-1/16-12	3/4	----
17031216	1-1/16-12	1	----
17031616	1-5/16-12	1	----
17031620	1-5/16-12	1-1/4	----
17032016	1-5/8-12	1	----
17032020	1-5/8-12	1-1/4	----
17032024	1-5/8-12	1-1/2	----
17033232	2-1/2-12	2	----
17032420	1-7/8-12	1-1/4	----
17032424	1-7/8-12	1-1/2	----
17032432	1-7/8-12	2	----
17031612	1-5/16-12	3/4	----

6845 505

### JIC FLANGE 90° ADAPTER

CODE 61



3000 PSI

Part #	JIC Thread Size 1	Flange Size 2	
170488	3/4-16	1/2	----
1704812	3/4-16	3/4	----
17041016	7/8-14	1	----
17041212	1-1/16-12	3/4	----
17041216	1-1/16-12	1	----
17041220	1-1/16-12	1-1/4	----
17041612	1-5/16-12	3/4	----
17041616	1-5/16-12	1	----
17041620	1-5/16-12	1-1/4	----
17041624	1-5/16-12	1-1/2	----
17042016	1-5/8-12	1	----
17042020	1-5/8-12	1-1/4	----
17042024	1-5/8-12	1-1/2	----
17042420	1-7/8-12	1-1/4	----
17042432	1-7/8-12	2	----
17043232	2-1/2-12	2	----
17042032	1-5/8-12	2	----
17042424	1-7/8-12	1-1/2	----

6890 504

### JIC FLANGE ADAPTER

CODE 62



6000 PSI

Part #	JIC Thread Size 1	Flange Size 2	
180088	3/4-16	1/2	----
18001212	1-1/16-12	3/4	----
18001216	1-1/16-12	1	----
18001616	1-5/16-12	1	----
18001620	1-5/16-12	1-1/4	----
18002016	1-5/8-12	1	----
18002020	1-5/8-12	1-1/4	----
18002024	1-5/8-12	1-1/2	----
18002424	1-7/8-12	1-1/2	----
18003232	2-1/2-12	2	----
18001612	1-5/16-12	3/4	----
18001624	1-5/16-12	1-1/2	----
18002420	1-7/8-12	1-1/4	----

6842

# FLANGE ADAPTERS

## HYDRAULIC ADAPTERS

### JIC FLANGE 45° ADAPTER CODE 62



PART #	JIC THREAD SIZE 1	FLANGE SIZE 2	
18031212	1-1/16-12	3/4	----
18031216	1-1/16-12	1	----
18031616	1-5/16-12	1	----
18031620	1-5/16-12	1-1/4	----
18032016	1-5/8-12	1	----
18032020	1-5/8-12	1-1/4	----
18032024	1-5/8-12	1-1/2	----
18032424	1-7/8-12	1-1/2	----
18033232	2-1/2-12	2	----
18031612	1-5/16-12	3/4	----
18031624	1-5/16-12	1-1/2	----
18032420	1-7/8-12	1-1/4	----

6847 508

### JIC FLANGE 90° ADAPTER - CODE 62



PART #	JIC THREAD SIZE 1	FLANGE SIZE 2	
18041212	1-1/16-12	3/4	----
18041216	1-1/16-12	1	----
18041616	1-5/16-12	1	----
18041620	1-5/16-12	1-1/4	----
18042016	1-5/8-12	1	----
18042020	1-5/8-12	1-1/4	----
18042024	1-5/8-12	1-1/2	----
18042424	1-7/8-12	1-1/2	----
18043232	2-1/2-12	2	----
18041612	1-5/16-12	3/4	----
18041624	1-5/16-12	1-1/2	----
18042420	1-7/8-12	1-1/4	----

6842

### SPLIT FLANGE PLUG - CODE 61



PART #	FLANGE SIZE	
196112	3/4	----
196116	1	----
196120	1-1/4	----
196124	1-1/2	----
196132	2	----

6861P

### SPLIT FLANGE PLUG CODE 62

6862P



6000 PSI

PART #	FLANGE SIZE	
196212	3/4	----
196216	1	----
196220	1-1/4	----
196224	1-1/2	----
196232	2	----

6862P

### SPLIT FLANGE KIT CODE 61

SFK



3000 PSI

PART #	FLANGE SIZE	FLANGE HEAD DIA.	
190112	3/4	1.50	----
190116	1	1.75	----
190120	1-1/4	2.00	----
190124	1-1/2	2.38	----
190132	2	2.81	----

### SPLIT FLANGE KIT CODE 62

SFXK



6000 PSI

PART #	FLANGE SIZE	FLANGE HEAD DIAMETER	
190212	3/4	1.63	----
190216	1	1.88	----
190220	1-1/4	2.12	----
190224	1-1/2	2.50	----
190232	2	3.12	----

# FLANGE ADAPTERS

## HYDRAULIC ADAPTERS

### SPLIT FLANGE HALF CODE 61

SF



3000 PSI

PART #	FLANGE SIZE	FLANGE HEAD DIAMETER	
206112	3/4	1.50	----
206116	1	1.75	----
206120	1-1/4	2.00	----
206124	1-1/2	2.38	----
206132	2	2.81	----

### SPLIT FLANGE HALF CODE 62

SFX



6000 PSI

PART #	FLANGE SIZE	FLANGE HEAD DIAMETER	
206212	3/4	1.63	----
206216	1	1.88	----
206220	1-1/4	2.12	----
206224	1-1/2	2.50	----
206232	2	3.12	----

### PIPE THREAD FLANGE PAD CODE 61

W43



3000 PSI

PART #	PIPE SIZE	
226188	1/2	----
22611212	3/4	----
22611616	1	----
22612020	1-1/4	----
22612424	1-1/2	----
22613232	2	----

### PIPE THREAD FLANGE PAD CODE 62

W44



6000 PSI

PART #	PIPE SIZE	
22621212	3/4	----
22621616	1	----
22622020	1-1/4	----
22622424	1-1/2	----
22623232	2	----

### O-RING FLANGE PAD CODE 61

W46



3000 PSI

PART #	O-RING THREAD SIZE	PAD SIZE	
23611212	1-1/16-12	3/4	----
23611616	1-5/16-12	1	----
23612020	1-5/8-12	1-1/4	----
23612424	1-7/8-12	1-1/2	----

### O-RING FLANGE PAD CODE 62

W48



6000 PSI

PART #	O-RING THREAD SIZE	PAD SIZE	
23621212	1-1/16-12	3/4	----
23621616	1-5/16-12	1	----
23622020	1-5/8-12	1-1/4	----
23622424	1-7/8-12	1-1/2	----

# STAINLESS STEEL ADAPTERS

#316 STAINLESS STEEL ADAPTERS

## STAINLESS STEEL ADAPTERS

PIPE SWIVELS



JIC FITTINGS



BULKHEAD FITTINGS



PIPE FITTINGS



SAE O-RING BOSS



JIC FEMALE SWIVELS



HOSE CRIMP FITTINGS



ALL MALE THREADS SHIPPED WITH PROTECTIVE COVER





# TECHNICAL INFORMATION

## #316 STAINLESS STEEL ADAPTERS

### PRESSURE RATINGS

The hydraulic tube fittings represented by Stainless Adapters Inc. conform to the performance requirements specified in SAE J514, SAE J518, SAE J1453, SAE J1926/ISO 11926 and related standards.

The working pressure ratings listed below are based on a 4:1 design factor for minimum burst. As specified in SAE J514, these are dynamic pressure ratings and the fittings are capable of passing a cyclic endurance (impulse) test for one million cycles at 133 % of the corresponding working pressure.

The rated working pressure for any fitting is based on the lowest pressure rated fitting end. For example, a fitting may include one -4 (1/4") male 37-degree tube end and one -6 (3/8") male pipe end. From the tables below, the rated working pressure for the -4 male 37-degree tube end is 34.5 MPa (5,000 psi) and the rated working pressure of the -6 (3/8") male pipe end is 21 MPa (3,000 psi). The rated working pressure of the fitting would be 21 MPa (3,000 psi).

For proper performance, the design of any hydraulic system should take into consideration the rated working pressures for each of the components of the system, including standard ratings for hose and tubing components and assemblies. For any application, testing should be performed to assure safe and satisfactory performance.

Pressure Ratings for Fittings With NPTF Pipe Threads and Adapter Unions							
Nominal Pipe Size		Thread Size		Working Pressures			
Nom SAE Dash Size	Nom Inch Pipe O.D.	Dryseal Pipe Thread (NPTF <sup>1</sup> ) Male and Female	Straight Pipe Thread (NPSM <sup>2</sup> ) Female Swivels	Fittings With NPTF Pipe Threads		Adapter Unions	
				MPa	psi	MPa	psi
-2	1/8	1/8-27	1/8-27	34.5	5,000	34.5	5,000
-4	1/4	1/4-18	1/4-18	27.5	4,000	34.5	5,000
-6	3/8	3/8-18	3/8-18	21	3,000	27.6	4,000
-8	1/2	1/2-14	1/2-14	21	3,000	24.1	3,500
-12	3/4	3/4-14	3/4-14	17	2,500	15.5	2,250
-16	1	1-11-1/2	1-11-1/2	14	2,000	13.8	2,000
-20	1 1/4	1-1/4-11-1/2	1-1/4-11-1/2	8	1,150	11.2	1,625
-24	1 1/2	1-1/2-11-1/2	1-1/2-11-1/2	7	1,000	8.6	1,250
-32	2	2-11-1/2	2-11-1/2	7	1,000	7.8	1,125

1) Dryseal American Standard Taper Pipe Thread

2) American Standard Straight Pipe Thread for Mechanical Joints

#### ■ Temperature Rating

Material	Identify	Max. Temperature °F(°C)
316 Stainless Steel	SS	1000(537)
Brass	B	400(204)
Carbon Steel	C	375(190)

# TECHNICAL INFORMATION

## #316 STAINLESS STEEL ADAPTERS

# Pressure Ratings

37° Flare SAE J514

Allowable Working Pressure Ratings (Capable of 4 to 1 Min. Burst)

Nom.SAE Dash Size	Nom.Tube O.D Inches	37°Flare Straight Thread	Nom.Pipe Size	SAE St. Threads Union and Bulkhead (psi)	Fittings with Pipe Threads (psi)
2	1/8	5/16" - 24	1/8"	5000	5000
3	3/16	3/8" - 24	1/8"	5000	5000
4	1/4	7/16" - 20	1/8"	5000	5000
5	5/16	1/2" - 20	1/8"	5000	5000
6	3/8	9/16" - 18	1/4"	5000	5000
8	1/2	3/4" - 16	3/8"	4500	4000
10	5/8	7/8" - 14	1/2"	3500	3000
12	3/4	1 1/16" - 12	3/4"	3500	3000
14	7/8	1 3/16" - 12	3/4"	3000	2500
16	1	1 5/16" - 12	1"	3000	2000
20	1 1/4	1 5/8" - 12	1 1/4"	2500	1150
24	1 1/2	1 7/8" - 12	1 1/2"	2000	1000
32	2	2 1/2" - 12	2"	1500	1000

JIC threads conform to SAE J514 specifications

### NPT

Size Designator	NPT Size	316 Stainless Steel			
		Male		Female	
		psig	bar	psig	bar
1	1/16	11000	757	6700	461
2	1/8	10000	689	6500	447
4	1/4	8000	551	6600	454
6	3/8	7800	537	5300	365
8	1/2	7700	530	4900	337
12	3/4	7300	502	4600	316
16	1	5300	365	4400	303
20	1 1/4	6000	413	5000	344
24	1 1/2	5000	344	4600	316
32	2	3900	268	3900	268

NPT threads meet the requirements of ASME/ANSIB.1.20.1

## FEMALE PIPE SWIVELS

#316 STAINLESS STEEL ADAPTERS

### MALE NPT X FEMALE NPSM SWIVEL



PART #	(A) MNPT SIZE	(B) FNPT SIZE	(A) MNPT THREAD	(B) FNPT THREAD	(L)	
SS1404-04-04	1/4	1/4	1/4-18	1/4-18	1.440	----
SS1404-06-06	3/8	3/8	3/8-18	3/8-18	1.560	----
SS1404-08-08	1/2	1/2	1/2-14	1/2-14	1.940	----
SS1404-12-12	3/4	3/4	3/4-14	3/4-14	2.060	----
SS1404-16-16	1	1	1-11 1/2	1-11 1/2	2.380	----

SAI: 1404-X-X / SSP: PSX-XC / PARKER: 0107-X-X-SS / AEROQUIP: 259-2045-X-X

### 316 STAINLESS STEEL FEMALE NPT X FEMALE NPSM SWIVEL



PART	(A) FNPT SIZE	(B) FNPT SIZE	(A) FNPT THREAD	(B) FNPT THREAD	(L)	
SS1405-04-04	1/4	1/4	1/4-18	1/4-18	1.440	----
SS1405-06-06	3/8	3/8	3/8-18	3/8-18	1.560	----
SS1405-08-08	1/2	1/2	1/2-14	1/2-14	1.830	----
SS1405-12-12	3/4	3/4	3/4-14	3/4-14	1.960	----
SS1405-16-16	1	1	1-11 1/2	1-11 1/2	2.300	----

SAI: 1405-X-X / SSP: PSX-XFC / PARKER: 0207-X-X-SS / AEROQUIP: 259-2046-X-X

#### Control Your Temper

There once was a little boy who had a very bad temper. His father decided to hand him a bag of nails and said that every time the boy lost his temper, he had to hammer a nail into the fence.

On the first day, the boy hammered 37 nails into that fence.

The boy gradually began to control his temper over the next few weeks, and the number of nails he was hammering into the fence slowly decreased.

He discovered it was easier to control his temper than to hammer those nails into the fence.

Finally, the day came when the boy didn't lose his temper at all. He told his father the news and the father suggested that the boy should now pull out a nail every day he kept his temper under control.

The days passed and the young boy was finally able to tell his father that all the nails were gone. The father took his son by the hand and led him to the fence.

"you have done well, my son, but look at the holes in the fence. The fence will never be the same. When you say things in anger, they leave a scar just like this one. You can put a knife in a man and draw it out. It won't matter how many times you say I'm sorry, the wound is still there."

Moral of the story:

Control your anger, and don't say things to people in the heat of the moment, that you may later regret. Some things in life, you are unable to take back.

- Unknown

**JIC 37°**

## #316 STAINLESS STEEL ADAPTERS

**JIC TUBE SLEEVE**

PART	(A) SIZE	(L)	
SS319-04	1/4	.409	----
SS319-06	3/8	.500	----
SS319-08	1/2	.559	----
SS319-10	5/8	.661	----
SS319-12	3/4	.681	----
SS319-16	1	.779	----

SAI: 319-X / SSP: JXS / PARKER: XTX-SS / AEROQUIP: 259-900605-X

**JIC TUBE NUT**

PART	(A) FJIC SIZE	(A) THREAD	HEX	(L)	
SS318-04	1/4	7/16-20	9/16	.622	----
SS318-06	3/8	9/16-18	11/16	.728	----
SS318-08	1/2	3/4-16	7/8	.850	----
SS318-10	5/8	7/8-14	1	.980	----
SS318-12	3/4	1-1/16-12	1-1/4	1.031	----
SS318-16	1	1-5/16-12	1-1/2	1.129	----

SAI: 318-X / SSP: JXN / PARKER: XBTX-SS / AEROQUIP: 259-1290-X

**JIC CAP**

PART	(A) FJIC SIZE	(A) THREAD	HEX	(L) LENGTH	
SS304-C-04	1/4	7/16-20	9/16	.594	----
SS304-C-06	3/8	9/16-18	11/16	.625	----
SS304-C-08	1/2	3/4-16	7/8	.748	----
SS304-C-10	5/8	7/8-14	1	.842	----
SS304-C-12	3/4	1-1/16-12	1-1/4	.905	----
SS304-C-16	1	1-5/16-12	1-1/2	1.015	----

SAI: 304-C-X / SSP: AJXZ / PARKER: X FNTX-SS / AEROQUIP: 259-210292-X

# STRAIGHTS JIC FLARE 37°

#316 STAINLESS STEEL ADAPTERS

## JIC UNION



PART	(A) MJIC SIZE	(B) MJIC SIZE	(A) MJIC THREAD	(B) MJIC THREAD	(L)	
SS2403-04-04	1/4	1/4	7/16-20	7/16-20	1.370	----
SS2403-06-04	3/8	1/4	9/16-18	7/16-20	1.401	----
SS2403-06-06	3/8	3/8	9/16-18	9/16-18	1.409	----
SS2403-08-04	1/2	1/4	3/4-16	7/16-20	1.511	----
SS2403-08-06	1/2	3/8	3/4-16	9/16-18	1.519	----
SS2403-08-08	1/2	1/2	3/4-16	3/4-16	1.618	----
SS2403-10-08	5/8	1/2	7/8-14	3/4-16	1.779	----
SS2403-10-10	5/8	5/8	7/8-14	7/8-14	1.881	----
SS2403-12-04	3/4	1/4	1-1/16-12	7/16-20	1.850	----
SS2403-12-06	3/4	3/8	1-1/16-12	9/16-18	1.850	----
SS2403-12-08	3/4	1/2	1-1/16-12	3/4-16	1.948	----
SS2403-12-12	3/4	3/4	1-1/16-12	1-1/16-12	2.161	----
SS2403-16-12	1	3/4	1-5/16-12	1-1/16-12	2.318	----
SS2403-16-16	1	1	1-5/16-12	1-5/16-12	2.251	----

SAI: 2403-X-X / SSP: JX-XU / PARKER: HTX-SS / AEROQUIP: 259-2027-X-X

## JIC X MALE NPT ADAPTER



PART	(A) MJIC SIZE	(B) MNPT SIZE	(A) MJIC THREAD	(B) MNPT THREAD	(L)	
SS2404-04-02	1/4	1/8	7/16-20	1/8-27	1.220	----
SS2404-04-04	1/4	1/4	7/16-20	1/4-18	1.421	----
SS2404-04-06	1/4	3/8	7/16-20	3/8-18	1.421	----
SS2404-04-08	1/4	1/2	7/16-20	1/2-14	1.681	----
SS2404-06-04	3/8	1/4	9/16-18	1/4-18	1.429	----
SS2404-06-06	3/8	3/8	9/16-18	3/8-18	1.440	----
SS2404-06-08	3/8	1/2	9/16-18	1/2-14	1.688	----
SS2404-08-04	1/2	1/4	3/4-16	1/4-18	1.519	----
SS2404-08-06	1/2	3/8	3/4-16	3/8-18	1.531	----
SS2404-08-08	1/2	1/2	3/4-16	1/2-14	1.712	----
SS2404-08-12	1/2	3/4	3/4-16	3/4-14	1.850	----
SS2404-08-16	1/2	1	3/4-16	1-11 1/2	2.050	----
SS2404-10-08	5/8	1/2	7/8-14	1/2-14	1.889	----
SS2404-12-08	3/4	1/2	1-1/16-12	1/2-14	2.059	----
SS2404-12-12	3/4	3/4	1-1/16-12	3/4-14	2.059	----
SS2404-12-16	3/4	1	1-1/16-12	1-11 1/2	2.250	----
SS2404-16-08	1	1/2	1-5/16-12	1/2-14	2.100	----
SS2404-16-12	1	3/4	1-5/16-12	3/4-14	2.110	----
SS2404-16-16	1	1	1-5/16-12	1-11 1/2	2.299	----

**STRAIGHTS JIC FLARE 37°**

#316 STAINLESS STEEL ADAPTERS

**MALE JIC X FEMALE NPT ADAPTER**

PART	(A) MJIC SIZE	(B) FNPT SIZE	(A) MJIC THREAD	(B) FNPT THREAD	(L)	
SS2405-04-04	1/4	1/4	7/16-20	1/4-18	1.389	----
SS2405-06-04	3/8	1/4	9/16-18	1/4-18	1.409	----
SS2405-06-06	3/8	3/8	9/16-18	3/8-18	1.470	----
SS2405-08-08	1/2	1/2	3/4-16	1/2-14	1.790	----
SS2405-12-12	3/4	3/4	1-1/16-12	3/4-14	2.059	----
SS2405-16-16	1	1	1-5/16-12	1-11 1/2	2.350	----

SAI: 2405-X-X / SSP: JX-XFC / PARKER: XXGTX-SS / AEROQUIP: 259-2022-X-X

**FEMALE JIC X MALE JIC (REDUCER-EXPANDER)**

PART	(A) FJIC SIZE	(B) MJIC SIZE	(A) FJIC THREAD	(B) MJIC THREAD	(L)	
SS2406-06-04	3/8	1/4	9/16-18	7/16-20	1.118	----
SS2406-08-04	1/2	1/4	3/4-16	7/16-20	1.448	----
SS2406-08-06	1/2	3/8	3/4-16	9/16-18	1.311	----
SS2406-10-08	5/8	1/2	7/8-14	3/4-16	1.409	----
SS2406-12-04	3/4	1/4	1-1/16-12	7/16-20	1.500	----
SS2406-12-06	3/4	3/8	1-1/16-12	9/16-18	1.480	----
SS2406-12-08	3/4	1/2	1-1/16-12	3/4-16	1.559	----
SS2406-16-04	1	1/4	1-5/16-12	7/16-20	1.570	----
SS2406-16-06	1	3/8	1-5/16-12	9/16-18	1.578	----
SS2406-16-08	1	1/2	1-5/16-12	3/4-16	1.669	----
SS2406-16-12	1	3/4	1-5/16-12	1-1/16-12	1.877	----

SAI: 2406-X-X / SSP: PSX-XFC / PARKER: 0207-X-X-SS / AEROQUIP: 259-2046-X-X

**JIC PLUG**

PART	(A) MJIC SIZE	(A) MJIC THREAD	HEX	(L)	
SS2408-04	1/4	7/16-20	1/2	.799	----
SS2408-06	3/8	9/16-18	5/8	.838	----
SS2408-08	1/2	3/4-16	13/16	.940	----
SS2408-10	5/8	7/8-14	15/16	1.098	----
SS2408-12	3/4	1-1/16-12	1-1/8	1.279	----
SS2408-16	1	1-5/16-12	1-3/8	1.330	----

SAI: 2408-X / SSP: JXP / PARKER: XRNTX-SS / AEROQUIP: 259-900599-X



# BULKHEAD FITTINGS

#316 STAINLESS STEEL ADAPTERS

## JIC BULKHEAD NUT



PART	(A) BN SIZE	(A) THREAD	HEX	(L)	
SS306-04	1/4	7/16-20	11/16	.279	----
SS306-06	3/8	9/16-18	13/16	.271	----
SS306-08	1/2	3/4-16	1	.311	----
SS306-10	5/8	7/8-14	1-1/8	.358	----
SS306-12	3/4	1-1/16-12	1-3/8	.409	----
SS306-16	1	1-5/16-12	1-5/8	.409	----

SAI: 306-X / SSP: XBN / PARKER: XWLN-SS / AEROQUIP: 259-210212-X-X

## MALE JIC BULKHEAD TUBE UNION



PART	(A) MJIC SIZE	(B) MJIC SIZE	(A) MJIC THREAD	(B) MJIC THREAD	(L)	
SS2700-04-04	1/4	1/4	7/16-20	7/16-20	2.070	----
SS2700-06-06	3/8	3/8	9/16-18	9/16-18	2.181	----
SS2700-08-08	1/2	1/2	3/4-16	3/4-16	2.440	----
SS2700-12-12	3/4	3/4	1-1/16-12	1-1/16-12	3.090	----
SS2700-16-16	1	1	1-5/16-12	1-5/16-12	3.141	----

SAI: 2700-X-X / SSP: JXBU / PARKER: XWTX-SS / AEROQUIP: 259-2041-X-X

## FEMALE NPT X MALE 37 DEGREE JIC BULKHEAD ADAPTER



PART	(A) FNPT SIZE	(B) MJIC SIZE	(A) FNPT THREAD	(B) MJIC THREAD	(L)	
SS2705-04-04	1/4	1/4	1/4-18	7/16-20	2.078	----
SS2705-06-06	3/8	3/8	3/8-18	9/16-18	2.220	----
SS2705-08-08	1/2	1/2	1/2-14	3/4-16	2.610	----
SS2705-12-12	3/4	3/4	3/4-14	1-1/16-12	2.992	----
SS2705-16-16	1	1	1-11 1/2	1-5/16-12	3.228	----

SAI: 2705-X-X / SSP: JX-XBFC / PARKER: X-XWGTX-SS / AEROQUIP: 259-2239-X-X

## FEMALE NPT X FEMALE NPT BULKHEAD COUPLING



PART	(A) FNPT SIZE	(B) FNPT SIZE	(A) FNPT THREAD	(B) FNPT THREAD	(L)	
SS2707-04-04	1/4	1/4	1/4-18	1/4-18	1.500	----
SS2707-06-06	3/8	3/8	3/8-18	3/8-18	1.311	----
SS2707-08-08	1/2	1/2	1/2-14	1/2-14	1.500	----

SAI: 2707-X-X / SSP: AXAC

**PIPE FITTINGS**

#316 STAINLESS STEEL ADAPTERS

**HEX PIPE COUPLING**

PART	(A) FNPT SIZE	(B) FNPT SIZE	(A) FNPT THREAD	(B) FNPT THREAD	(L)	
SS5000-02-02	1/8	1/8	1/8-27	1/8-27	.748	----
SS5000-04-04	1/4	1/4	1/4-18	1/4-18	1.129	----
SS5000-06-04	3/8	1/4	3/8-18	1/4-18	1.129	----
SS5000-06-06	3/8	3/8	3/8-18	3/8-18	1.129	----
SS5000-08-06	1/2	3/8	1/2-14	3/8-18	1.500	----
SS5000-08-08	1/2	1/2	1/2-14	1/2-14	1.500	----
SS5000-12-12	3/4	3/4	3/4-14	3/4-14	1.531	----
SS5000-16-08	1	1/2	1-11 1/2	1/2-14	1.889	----
SS5000-16-12	1	3/4	1-11 1/2	3/4-14	1.889	----
SS5000-16-16	1	1	1-11 1/2	1-11 1/2	1.889	----

SAI: 5000-X-X / SWANGELOK: SS-XHGG-X / SSP: XHC / PARKER: XGG-SS / AEROQUIP: 259-2096-X-X

**HEX PIPE NIPPLE**

PART	(A) MNPT SIZE	(B) MNPT SIZE	(A) MNPT THREAD	(B) MNPT THREAD	L	
SS5404-02-02	1/8	1/8	1/8-27	1/8-27	1.059	----
SS5404-04-02	1/4	1/8	1/4-18	1/8-27	1.259	----
SS5404-04-04	1/4	1/4	1/4-18	1/4-18	1.448	----
SS5404-06-04	3/8	1/4	3/8-18	1/4-18	1.448	----
SS5404-06-06	3/8	3/8	3/8-18	3/8-18	1.448	----
SS5404-08-04	1/2	1/4	1/2-14	1/4-18	1.700	----
SS5404-08-06	1/2	3/8	1/2-14	3/8-18	1.700	----
SS5404-08-08	1/2	1/2	1/2-14	1/2-14	1.889	----
SS5404-12-04	3/4	1/4	3/4-14	1/4-18	1.771	----
SS5404-12-06	3/4	3/8	3/4-14	3/8-18	1.771	----
SS5404-12-08	3/4	1/2	3/4-14	1/2-14	1.960	----
SS5404-12-12	3/4	3/4	3/4-14	3/4-14	1.960	----
SS5404-16-08	1	1/2	1-11 1/2	1/2-14	2.090	----
SS5404-16-12	1	3/4	1-11 1/2	3/4-14	2.149	----
SS5404-16-16	1	1	1-11 1/2	1-11 1/2	2.338	----

SAI: 5404-X-X / SWANGELOK: SS-X-HN-X / SSP: XHN / PARKER: X-XFF-SS / AEROQUIP: 259-2083-X-X

**PIPE NIPPLE**

PART	(A) MNPT SIZE	(A) MNPT THREAD	(L)	
SSCN-04	1/4	1/4-18	1.120	----
SSCN-06	3/8	3/8-18	1.125	----
SSCN-08	1/2	1/2-14	1.507	----
SSCN-12	3/4	3/4-14	1.500	----
SSCN-16	1	1-11 1/2	1.880	----

SAI: CN-X / SWANGELOK: SS-X-CN / PARKER: X-X MCN-SS / AEROQUIP: 259-2083-X-X

# STEEL PIPE FITTINGS

#316 STAINLESS STEEL ADAPTERS

## MALE NPT X FEMALE NPT ADAPTER EXPANDER



PART	(A) MNPT SIZE	(B) FNPT SIZE	(A) MNPT THREAD	(B) FNPT THREAD	(L)	
SS5405-02-02	1/8	1/8	1/8-27	1/8-27	1.039	----
SS5405-02-04	1/8	1/4	1/8-27	1/4-18	1.208	----
SS5405-04-04	1/4	1/4	1/4-18	1/4-18	1.389	----
SS5405-04-06	1/4	3/8	1/4-18	3/8-18	1.440	----
SS5405-04-08	1/4	1/2	1/4-18	1/2-14	1.681	----
SS5405-06-06	3/8	3/8	3/8-18	3/8-18	1.440	----
SS5405-06-08	3/8	1/2	3/8-18	1/2-14	1.681	----
SS5405-06-12	3/8	1/2	3/8-18	3/4-14	1.740	----
SS5405-08-08	1/2	1/2	1/2-14	1/2-14	1.870	----
SS5405-08-12	1/2	3/4	1/2-14	3/4-14	1.929	----
SS5405-08-16	1/2	1	1/2-14	1-11 1/2	2.181	----
SS5405-12-12	3/4	3/4	3/4-14	3/4-14	1.929	----
SS5405-12-16	3/4	1	3/4-14	1-11 1/2	2.181	----
SS5405-16-16	1	1	1-11 1/2	1-11 1/2	2.370	----

SAI: 5405-X-X / SWANGELOK: SS-X-RA-X / SSP: XXXRA / PARKER: X-XFG-SS / AEROQUIP: 259-2040-X-X

## MALE NPT X FEMALE NPT BUSHING/ REDUCER



PART	(A) MNPT SIZE	(B) FNPT SIZE	(A) MNPT THREAD	(B) FNPT THREAD	(L)	
SS5406-04-02	1/4	1/8	1/4-18	1/8-27	.850	----
SS5406-06-04	3/8	1/4	3/8-18	1/4-18	.850	----
SS5406-08-04	1/2	1/4	1/2-14	1/4-18	1.098	----
SS5406-08-06	1/2	3/8	1/2-14	3/8-18	1.098	----
SS5406-12-04	3/4	1/4	3/4-14	1/4-18	1.169	----
SS5406-12-06	3/4	3/8	3/4-14	3/8-18	1.169	----
SS5406-12-08	3/4	1/2	3/4-14	1/2-14	1.169	----
SS5406-16-04	1	1/4	1-11 1/2	1/4-18	.940	----
SS5406-16-06	1	3/8	1-11 1/2	3/8-18	.940	----
SS5406-16-08	1	1/2	1-11 1/2	1/2-14	.940	----
SS5406-16-12	1	3/4	1-11 1/2	3/4-14	.940	----
SS5406-20-12	1-1/4	3/4	1-1/4-11 1/2	3/4-14	1.47	----

SAI: 5606-X-X / SWANGELOK: SS-XRB-X / SSP: XXXRA / PARKER: XXXPTR-SS / AEROQUIP: 259-2081-X-X

## HEX PIPE PLUG



PART	(A) MNPT SIZE	(A) MNPT THREAD	HEX SIZE	(L)	(L)	
SS5406-P-04	1/4	1/4-18	9/16	.751	.850	----
SS5406-P-06	3/8	3/8-18	11/16	.779	.850	----
SS5406-P-08	1/2	1/2-14	7/8	1.118	1.098	----
SS5406-P-12	3/4	3/4-14	1-1/8	1.169	1.098	----
SS5406-P-16	1	1-11 1/2	1-3/8	1.397	1.169	----

SAI: 5606-P-X / SWANGELOK: SS-X-P / SSP: XXXRA / PARKER: X-HHP-SS / AEROQUIP: 259-2082-X

## HOLLOW HEX PLUG



PART	(A) MNPT SIZE	(A) MNPT THREAD	HEX SIZE	(L)	(L)	
SS5406-HHP-04	1/4	1/4-18	1/4	.460	.850	----
SS5406-HHP-06	3/8	3/8-18	5/16	.460	.850	----
SS5406-HHP-08	1/2	1/2-14	3/8	.610	1.098	----
SS5406-HHP-12	3/4	3/4-14	9/16	.618	1.098	----
SS5406-HHP-16	1	1-11 1/2	5/8	.771	1.169	----

SAI: 5406-HHP-X / SWANGELOK: SS-X-HP / SSP: XCP / PARKER: X-HP-SS / AEROQUIP: 259-2222-X

**STEEL PIPE FITTINGS**

#316 STAINLESS STEEL ADAPTERS

**HEX PIPE CAP**

PART	(A) FNPT SIZE	(A) FNPT THREAD	HEX	(L)	
SS5406-C-04	1/4	1/4-18	3/4	.811	----
SS5406-C-06	3/8	3/8-18	7/8	.811	----
SS5406-C-08	1/2	1/2-14	1	1.000	----
SS5406-C-12	3/4	3/4-14	1-5/16	1.129	----
SS5406-C-16	1	1-11 1/2	1-5/8	1.500	----

SAI: 5406-C / SWANGELOK: SS-X-C / SSP: XMM / PARKER: XCR-SS / AEROQUIP: 259-2085-X-X

**MALE X MALE 90 DEGREE PIPE ELBOW**

PART	(A) MNPT SIZE	(B) MNPT SIZE	(A) MNPT THREAD	(B) MNPT THREAD	(L)	
SS5500-02-02	1/8	1/8	1/8-27	1/8-27	.748	----
SS5500-04-04	1/4	1/4	1/4-18	1/4-18	1.129	----
SS5500-06-06	3/8	3/8	3/8-18	3/8-18	1.129	----
SS5500-08-08	1/2	1/2	1/2-14	1/2-14	1.129	----
SS5500-12-12	3/4	3/4	3/4-14	3/4-14	1.500	----
SS5500-16-16	1	1	1-11 1/2	1-11 1/2	1.500	----

SAI: 5500-X-X / SWANGELOK: SS-X-ME / SSP: XMM / PARKER: XCR-SS / AEROQUIP: 259-2085-X-X

**MALE X FEMALE STREET ELBOW**

PART	(A) MNPT SIZE	(B) FNPT SIZE	(A) MNPT THREAD	(B) FNPT THREAD	
SS5502-02-02	1/8	1/8	1/8-27	1/8-27	----
SS5502-04-04	1/4	1/4	1/4-18	1/4-18	----
SS5502-06-06	3/8	3/8	3/8-18	3/8-18	----
SS5502-08-08	1/2	1/2	1/2-14	1/2-14	----
SS5502-12-12	3/4	3/4	3/4-14	3/4-14	----
SS5502-16-16	1	1	1-11 1/2	1-11 1/2	----

SAI: 5500-X-X / SWANGELOK: SS-X-ME / SSP: XMM / PARKER: XCR-SS / AEROQUIP: 259-2085-X-X

# STEEL PIPE FITTINGS

#316 STAINLESS STEEL ADAPTERS

## FEMALE X FEMALE 90 DEGREE ELBOW



PART	(A) FNPT SIZE	(B) FNPT SIZE	(A) FNPT THREAD	(B) FNPT THREAD	
SS5504-02-02	1/8	1/8	1/8-27	1/8-27	----
SS5504-04-04	1/4	1/4	1/4-18	1/4-18	----
SS5504-06-06	3/8	3/8	3/8-18	3/8-18	----
SS5504-08-08	1/2	1/2	1/2-14	1/2-14	----
SS5504-12-12	3/4	3/4	3/4-14	3/4-14	----
SS5504-16-16	1	1	1-11 1/2	1-11 1/2	----

SAI: 5504-X-X / SWANGELOK: SS-X-E / SSP: XFF / PARKER: XDD-SS / AEROQUIP: 259-2087-X-X

## MALE ELBOWS PIPE TEE



PART	(A) MNPT SIZE	(B) MNPT SIZE	(C) MNPT SIZE	(A) MNPT THREAD	(B) MNPT THREAD	(C) MNPT THREAD	
SS5600-04-04-04	1/4	1/4	1/4	1/4-18	1/4-18	1/4-18	----
SS5600-06-06-06	3/8	3/8	3/8	3/8-18	3/8-18	3/8-18	----
SS5600-08-08-08	1/2	1/2	1/2	1/2-14	1/2-14	1/2-14	----
SS5600-12-12-12	3/4	3/4	3/4	3/4-14	3/4-14	3/4-14	----
SS5600-16-16-16	1	1	1	1-11 1/2	1-11 1/2	1-11 1/2	----

SAI: 5600-X-X-X / SWANGELOK: SS-X-MT / SSP: XMMM / PARKER: XRRS-SS / AEROQUIP: 259-2257-X-X

## TEE - FEMALE X FEMALE X FEMALE



PART	(A) FNPT SIZE	(B) FNPT SIZE	(C) FNPT SIZE	(A) FNPT THREAD	(B) FNPT THREAD	(C) FNPT THREAD	
SS5605-02-02-02	1/8	1/8	1/8	1/8-27	1/8-27	1/8-27	----
SS5605-04-04-04	1/4	1/4	1/4	1/4-18	1/4-18	1/4-18	----
SS5605-06-06-06	3/8	3/8	3/8	3/8-18	3/8-18	3/8-18	----
SS5605-08-08-08	1/2	1/2	1/2	1/2-14	1/2-14	1/2-14	----
SS5605-12-12-12	3/4	3/4	3/4	3/4-14	3/4-14	3/4-14	----
SS5605-16-16-16	1	1	1	1-11 1/2	1-11 1/2	1-11 1/2	----

SAI: 5605-X-X-X / SWANGELOK: SS-X-T / SSP: XFF / PARKER: XMMO-SS / AEROQUIP: 259-2090-X-X

**SAE O-RING BOSS (ORB)**

#316 STAINLESS STEEL ADAPTERS

**MALE JIC X MALE SAE O-RING BOSS**

PART	(A) MJIC SIZE	(B) MORB SIZE	(A) MJIC THREAD	(B) MORB THREAD	(L)	
SS6400-04-04	1/4	1/4	7/16-20	7/16-20	1.228	----
SS6400-04-06	1/4	3/8	7/16-20	9/16-18	1.291	----
SS6400-06-06	3/8	3/8	9/16-18	9/16-18	1.299	----
SS6400-06-08	3/8	1/2	9/16-18	3/4-16	1.377	----
SS6400-06-10	3/8	5/8	9/16-18	7/8-14	1.500	----
SS6400-08-06	1/2	3/8	3/4-16	9/16-18	1.440	----
SS6400-08-08	1/2	1/2	3/4-16	3/4-16	1.488	----
SS6400-08-10	1/2	5/8	3/4-16	7/8-14	1.598	----
SS6400-08-12	1/2	3/4	3/4-16	1-1/16-12	1.759	----
SS6400-12-08	3/4	1/2	1-1/16-12	3/4-16	1.940	----
SS6400-12-12	3/4	3/4	1-1/16-12	1-1/16-12	1.968	----
SS6400-12-16	3/4	1	1-1/16-12	1-5/16-12	1.988	----
SS6400-16-12	1	3/4	1-5/16-12	1-1/16-12	2.039	----
SS6400-16-16	1	1	1-5/16-12	1-5/16-12	2.039	----

SAI: 6400-X-X-X / SWANGELOK: SS-X-SAE-1-XAN / SSP: JXGC / PARKER: XF50X-SS / AEROQUIP: 259-202702-X-X

**MALE SAE O-RING BOSS X FEMALE JIC SWIVEL**

PART	(A) MORB SIZE	(B) FJIC SIZE	(A) MORB THREAD	(B) FJIC THREAD	(L)	
SS6402-04-04	1/4	1/4	7/16-20	7/16-20	1.625	----
SS6402-06-06	3/8	3/8	9/16-18	9/16-18	1.842	----
SS6402-08-08	1/2	1/2	3/4-16	3/4-16	2.078	----
SS6402-12-12	3/4	3/4	1-1/16-12	1-1/16-12	2.582	----
SS6402-16-16	1	1	1-5/16-12	1-5/16-12	2.807	----

SAI: 6402-X-X-X / SSP: JSX6C / PARKER: XF650X-SS / AEROQUIP: 259-2266-X-X

**MALE SAE O-RING BOSS X FEMALE NPT**

PART	(A) MORB SIZE	(B) FNPT SIZE	(A) MORB THREAD	(B) FNPT SIZE	(L)	
SS6405-04-04	1/4	1/4	7/16-20	1/4-18	1.161	----
SS6405-06-04	3/8	1/4	9/16-18	1/4-18	1.090	----
SS6405-06-06	3/8	3/8	9/16-18	3/8-18	1.330	----
SS6405-08-08	1/2	1/2	3/4-16	1/2-14	1.468	----
SS6405-12-08	3/4	1/2	1-1/16-12	1/2-14	1.409	----
SS6405-12-12	3/4	3/4	1-1/16-12	3/4-14	1.590	----
SS6405-16-16	1	1	1-5/16-12	1-11 1/2	1.897	----

SAI: 6405-X-X / SWANGELOK: SS-X-SAE-7-X / SSP: XXXGCF / PARKER: XXX-F50G-SS / AEROQUIP: 259-2216-X-X



## SAE O-RING BOSS (ORB)

#316 STAINLESS STEEL ADAPTERS

### SAE O-RING BOSS HEX PLUG



PART	(A) MORB SIZE	(A) MORB THREAD	HEX	(L)	
SS6408-04	1/4	7/16-20	9/16	.669	----
SS6408-06	3/8	9/16-18	11/16	.728	----
SS6408-08	1/2	3/4-16	7/8	.779	----
SS6408-10	5/8	7/8-14	1"	.929	----
SS6408-12	3/4	1-1/16-12	1-1/4	1.090	----
SS6408-16	1	1-5/16-12	1-1/2	1.118	----

SAI: 6408-HH-X / SWANGELOK: SS-X-HPST / SSP: XCGP /  
PARKER: XHP50N-SS / AEROQUIP: 259-FF2138-X

### MALE SAE O-RING BOSS HOLLOW HEX PLUG



PART	(A) MORB SIZE	(A) MORB THREAD	HEX SIZE	(L)	
SS6408-HH-02	1/8	5/16-24	1/8	.401	----
SS6408-HH-04	1/4	7/16-20	3/16	.468	----
SS6408-HH-06	3/8	9/16-18	1/4	.500	----
SS6408-HH-08	1/2	3/4-16	5/16	.578	----
SS6408-HH-10	5/8	7/8-14	3/8	.649	----
SS6408-HH-12	3/4	1-1/16-12	9/16	.767	----
SS6408-HH-16	1	1-5/16-12	5/8	.767	----

SAI: 6408-X / SWANGELOK: SS-X-PST / SSP: XGP / PARKER: XP50N-SS /  
AEROQUIP: 259-900598-X

**FEMALE JIC SWIVELS**

#316 STAINLESS STEEL ADAPTERS

**316 STAINLESS STEEL MALE NPT X FEMALE 37 DEGREE JIC SWIVEL**

PART	(A) MNPT SIZE	(B) FJIC SIZE	(A) MNPT THREAD	(B) FJIC THREAD	(L)	
SS6505-04-04	1/4	1/4	1/4-18	7/16-20	1.807	----
SS6505-06-06	3/8	3/8	3/8-18	9/16-18	1.952	----
SS6505-08-08	1/2	1/2	1/2-14	3/4-16	2.358	----
SS6505-12-12	3/4	3/4	3/4-14	1-1/16-12	2.668	----
SS6505-16-16	1	1	1-11 1/2	1-5/16-12	3.055	----

SAI: 6505-X-X / SWANGELOK: JSX-XC / PARKER: XXXF6X-SS / AEROQUIP: 259-2018-X-X

**316 STAINLESS STEEL FEMALE NPT X FEMALE 37 DEGREE JIC SWIVEL**

PART	(A) FNPT SIZE	(B) FJIC SIZE	(A) FNPT THREAD	(B) FJIC THREAD	(L)	
SS6506-04-04	1/4	1/4	1/4-18	7/16-20	1.862	----
SS6506-06-06	3/8	3/8	3/8-18	9/16-18	2.011	----
SS6506-08-08	1/2	1/2	1/2-14	3/4-16	2.389	----
SS6506-12-12	3/4	3/4	3/4-14	1-1/16-12	2.673	----
SS6506-16-16	1	1	1-11 1/2	1-5/16-12	3.114	----

SAI: 6506-X-X / SWANGELOK: JSX-XFC / PARKER: X-XG6X-SS / AEROQUIP: 259-2242-X-X

Your attitude is like a box of crayons that color your world. Constantly color your picture gray, and your picture will always be bleak. Try adding some bright colors to the picture by including humor, and your picture begins to lighten up.

- Allen Klein

# CRIMP HOSE FITTINGS

#316 STAINLESS STEEL ADAPTERS

## STRAIGHT MALE NPT PIPE - RIGID



PART	HOSE DASH SIZE	HOSE I.D. (INCHES)	THREAD DASH SIZE	MNPT THREAD	(L)	
SS43-04-04MP	-04	1/4	-04	1/4-18	1.862	----
SS43-04-06MP	-04	1/4	-06	3/8-18	2.011	----
SS43-06-04MP	-06	3/8	-04	1/4-18	2.389	----
SS43-06-06MP	-06	3/8	-06	3/8-18	2.673	----
SS43-08-08MP	-08	1/2	-08	1/2-14	3.114	----
SS43-10-08MP	-10	5/8	-08	1/2-14	1.590	----
SS43-12-12MP	-12	3/4	-12	3/4-14	1.897	----
SS43-16-16MP	-16	1	-16	1-11-1/2		----

SAI: 4304-XMP / PARKER: 10143-X-XC

## STRAIGHT FEMALE JIC - SWIVEL



PART	HOSE DASH SIZE	HOSE I.D. (INCHES)	THREAD DASH SIZE	FJIC THREAD	(L)	
SS43-04-04FJ	-04	1/4	-04	7/16-20	1.862	----
SS43-04-06FJ	-04	1/4	-06	9/16-18	2.011	----
SS43-06-04FJ	-06	3/8	-04	7-16-20	2.389	----
SS43-06-06FJ	-06	3/8	-06	9/16-18	2.673	----
SS43-06-08FJ	-06	3/8	-08	3/4-16	3.114	----
SS43-08-08FJ	-08	1/2	-08	3/4-16	1.590	----
SS43-08-10FJ	-08	1/2	-10	7/8-14	1.897	----

SAI: 4304-XFJ / PARKER: 10643-X-XC

## 90 DEGREE FEMALE JIC - SWIVEL



PART	HOSE DASH SIZE	HOSE I.D. (INCHES)	THREAD DASH SIZE	FJIC THREAD	
SS43-04-04FJ90	-04	1/4	-04	7/16-20	----
SS43-04-06FJ90	-04	1/4	-06	9/16-18	----
SS43-06-06FJ90	-06	3/8	-06	9/16-18	----
SS43-08-08FJ90	-08	1/2	-08	3/4-16	----
SS43-12-12FJ90	-12	3/4	-12	1-1/16-12	----
SS43-16-16FJ90	-16	1	-16	1-5/16-12	----

SAI: 43-X-XFJ90 / PARKER: 10143-X-XC

## STRAIGHT MALE NPT - API



PART	HOSE DASH SIZE	HOSE I.D. (INCHES)	THREAD DASH SIZE	MNPT THREAD	
BW-16-16API-C	-16	1	-16	1-11 1/2	----

PRODUCT SPECIFICATIONS - BW SERIES MALE API BOP CRIMP FITTING

PART	O.D. (INCHES)	I.D. (INCHES)	LENGTH (INCHES)	
BOPF-C	2.360	2.225	5.195	----

PRODUCT SPECIFICATIONS - BW SERIES MALE API BOP CRIMP FERRULE

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
030410.....	506	10004.....	50	10043.....	51	10106EH.....	53	10178.....	54	10238LF.....	165
030412.....	506	100045.....	223	10043LF.....	164	10106L.....	53	10179.....	54	10239.....	55
030416.....	506	1000465.....	223	10044.....	51	10106LF.....	164	10180.....	54	10239LF.....	165
03044.....	506	10005.....	50	10044LF.....	164	10107.....	53	10181.....	54	10240.....	55
03046.....	506	10006.....	50	10045.....	51	10107LF.....	164	10181LF.....	164	10240L.....	55
03048.....	506	100065.....	223	10046.....	51	10108.....	53	10182.....	54	10240LF.....	165
0304C10.....	506	1000665.....	223	10047.....	51	10108L.....	53	10182LF.....	164	10241.....	55
0304C12.....	506	10007.....	50	10048.....	51	10108LF.....	164	10187.....	54	10241L.....	55
0304C14.....	506	10008.....	50	10049.....	51	10109.....	53	10188.....	54	10241LF.....	165
0304C16.....	506	100085.....	223	10051.....	51	10109L.....	53	10189.....	54	10242.....	55
0304C2.....	506	1000865.....	223	10052.....	51	10109LF.....	164	10189LF.....	164	10242L.....	55
0304C20.....	506	1001125.....	223	10052LF.....	164	10110.....	53	10203.....	55	10242LF.....	165
0304C24.....	506	10011265.....	223	10053.....	51	10110L.....	53	10204.....	55	10243.....	55
0304C3.....	506	1001165.....	223	10054.....	51	10110LF.....	164	10204LF.....	165	10243LF.....	165
0304C32.....	506	10011665.....	223	10054LF.....	164	10111.....	53	10205.....	55	10244.....	55
0304C4.....	506	1001205.....	223	10055.....	51	10111LF.....	164	10205LF.....	165	10244L.....	55
0304C5.....	506	10012065.....	223	10056.....	51	10112.....	53	10206.....	55	10244LF.....	165
0304C6.....	506	1001245.....	223	10056LF.....	164	10115.....	54	10206LF.....	165	10245.....	55
0304C8.....	506	10012465.....	223	10058.....	51	10116.....	54	10207.....	55	10245LF.....	165
030610.....	510	10013.....	50	10062.....	52	10117.....	54	10208.....	55	10246.....	55
030612.....	510	10013.....	88	10063.....	52	10118.....	54	10209.....	55	10247.....	55
030614.....	510	10013LF.....	164	10064.....	52	10118LF.....	164	10210.....	55	10247LF.....	165
030616.....	510	10014.....	50	10064LF.....	164	10119.....	54	10210LF.....	165	10248.....	55
03062.....	510	100145.....	223	10065.....	52	10120.....	54	10211.....	55	10251LF.....	165
030620.....	510	1001465.....	223	10066.....	52	10120LF.....	164	10211LF.....	165	10252LF.....	165
03064.....	510	10014LF.....	164	10066LF.....	164	10121.....	54	10212.....	55	10253.....	56
03065.....	510	10015.....	50	10067.....	52	10121LF.....	164	10212LF.....	165	10253LF.....	165
03066.....	510	10015L.....	50	10067LF.....	164	10122.....	54	10213.....	55	10254.....	56
03068.....	510	10015LF.....	164	10068.....	52	10122LF.....	164	10214.....	55	10254LF.....	165
031810.....	506	10016.....	50	10068LF.....	164	10123.....	54	10214LF.....	165	10255.....	56
031812.....	506	100165.....	223	10069.....	52	10123LF.....	164	10215.....	55	10255EH.....	56
031814.....	506	1001665.....	223	10073.....	52	10126.....	54	10215LF.....	165	10255L.....	56
031816.....	506	10016LF.....	164	10074.....	52	10127.....	54	10216.....	55	10255LF.....	165
03182.....	506	10017.....	50	10075.....	52	10131.....	53	10217.....	55	10256.....	56
031820.....	506	10017L.....	50	10075EH.....	52	10132.....	53	10218.....	55	10256EHLF.....	165
031824.....	506	10017LF.....	164	10075LF.....	164	10133.....	53	10218LF.....	165	10256L.....	56
03183.....	506	10018.....	50	10076.....	52	10135.....	60	10219.....	55	10256LF.....	165
03184.....	506	100185.....	223	10076LF.....	164	10136.....	60	10220.....	55	10256SS.....	56
03185.....	506	1001865.....	223	10077.....	52	10137.....	60	10227.....	55	10256WC.....	53
03186.....	506	10018LF.....	164	10077LF.....	164	10138.....	60	10227LF.....	165	10257.....	56
03188.....	506	10019.....	50	10078.....	52	10139.....	60	10228.....	55	10257LF.....	165
031910.....	506	10019L.....	50	10078LF.....	164	10157.....	54	10228L.....	55	10258.....	56
031912.....	506	10019LF.....	164	10079.....	52	10157LF.....	164	10228LF.....	165	10258LF.....	165
031914.....	506	10020.....	50	10079LF.....	164	10158.....	54	10229.....	55	10259.....	56
031916.....	506	10020L.....	50	10080.....	52	10158LF.....	164	10229L.....	55	10259L.....	56
03192.....	506	10020LF.....	164	10080LF.....	164	10159.....	54	10229LF.....	165	10259LF.....	165
031920.....	506	10021.....	50	10081.....	52	10159LF.....	164	10230.....	55	10260.....	56
031924.....	506	10021LF.....	164	10082.....	52	10160.....	54	10230LF.....	165	10260L.....	56
03193.....	506	10022.....	50	10084.....	52	10160LF.....	164	10231.....	55	10260LF.....	165
031932.....	506	10023.....	50	10085.....	52	10161.....	54	10231LF.....	165	10261.....	56
03194.....	506	10024.....	50	10086.....	52	10161LF.....	164	10232.....	55	10261LF.....	165
03195.....	506	10025.....	50	10087.....	52	10162.....	54	10232LF.....	165	10262.....	56
03196.....	506	10026.....	50	10088.....	52	10162LF.....	164	10233.....	55	10262LF.....	165
03198.....	506	10028.....	51	10089.....	52	10163.....	54	10233LF.....	165	10263.....	56
10001.....	50	10030.....	51	10090.....	52	10163LF.....	164	10234.....	55	10263L.....	56
1000105.....	223	10031.....	51	10094.....	53	10164.....	54	10234LF.....	165	10263LF.....	165
10001065.....	223	10032.....	51	10095.....	53	10165.....	54	10235.....	55	10263SS.....	56
1000125.....	223	10033.....	51	10097.....	53	10170.....	54	10235L.....	55	10264.....	56
10001265.....	223	10038.....	51	10098.....	53	10171.....	54	10235LF.....	165	10264L.....	56
10002.....	50	10039.....	51	10099.....	53	10172.....	54	10236.....	55	10264LF.....	165
100025.....	223	10039LF.....	164	10100.....	53	10173.....	54	10236L.....	55	10264SS.....	56
1000265.....	223	10040.....	51	10104.....	53	10174.....	54	10236LF.....	165	10265.....	56
10003.....	50	10041.....	51	10104LF.....	164	10174LF.....	164	10237.....	55	10265L.....	56
100035.....	223	10041LF.....	164	10105.....	53	10175.....	54	10237L.....	55	10265LF.....	165
1000365.....	223	10042.....	51	10105LF.....	164	10175LF.....	164	10237LF.....	165	10266.....	56
10003L.....	50	10042LF.....	164	10106.....	53	10176.....	54	10238.....	55	10266LF.....	165

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
10267	56	10298	57	10331LF	165	10462	60	10618	61	108038	238
10267LF	165	10298B	57	10333	58	10463	60	10619	61	108039	238
10268	56	10298LF	165	10340	58	10464	60	10620	61	108040	238
10268L	56	10299	57	10343	58	10467	60	10621	61	108062	237
10268LF	165	10299B	57	10344	58	10468	60	10622	61	108063	237
10269	56	10299LF	165	10344B	58	10469	60	107000	321	108064	237
10269L	56	10300	57	10345	58	10470	60	107001	321	108065	237
10269LF	165	10300B	57	10347	58	10473	60	107002	321	108066	237
10270	56	10300LF	165	10348	58	10481	61	107003	321	108067	237
10270LF	165	10301	57	10350	58	10481LF	165	107004	321	108069	237
10271	56	10301LF	165	10351	58	10482	61	107005	321	108071	237
10272	56	10302	57	10352	58	10482LF	165	107006	321	108072	237
10272L	56	10302B	57	10353	58	10483	61	107007	321	108073	237
10272LF	165	10302LF	165	10354	58	10483L	61	107009	321	108074	237
10273	56	10303	57	10355	58	10483LF	165	107011	321	108075	238
10273L	56	10303B	57	10357	58	10484	61	107012	321	108076	238
10273LF	165	10303L	57	10359	58	10484L	61	107013	321	108077	238
10274	56	10303LF	165	10360	58	10484LF	165	107014	321	108088	238
10274LF	165	10304	57	10361	58	10485	61	107020	320	108089	238
10275	56	10304LF	165	10373	59	10485LF	165	107021	320	108090	238
10275LF	165	10305	57	10374	59	10486	61	107022	320	108091	238
10276	56	10305LF	165	10375	59	10487	61	107023	320	108092	238
10276LF	165	10306	57	10376	59	10487LF	165	107024	320	108094	238
10277	56	10306B	57	10382	59	10488	61	107025	320	108095	238
10278	56	10306B	58	10404	59	10488LF	165	107026	320	108096	238
10278LF	165	10306LF	165	10405	59	10489	61	107027	320	108097	238
10279	56	10307	57	10406	59	10493	61	107029	320	108098	238
10280	56	10308	57	10406B	59	10494	61	107031	320	12000	69
10283	57	10309	57	10406LF	165	10495	61	107032	320	12001	69
10283B	57	10311	57	10407	59	10496	61	107033	320	12002	69
10284	57	10312	58	10407LF	165	10497	61	107034	320	12003	69
10284B	57	10313	58	10408	59	1050000	431	107040	321	12004	69
10284LF	165	10313B	58	10409	59	1050001	431	107041	321	12005	69
10285	57	10313LF	165	10409B	59	1050002	431	107042	321	12006	69
10286	57	10314	58	10409LF	165	1050003	431	107043	321	12007	69
10286B	57	10314B	58	10410	59	1050006	431	107044	321	12008	69
10286L	57	10314LF	165	10411	59	1050007	431	107045	321	12009	69
10286LF	165	10315	58	10412	59	1050008	431	107046	321	12010	69
10287	57	10316	58	10416	59	1050009	431	107047	321	12011	69
10287B	57	10317	58	10419	59	1050010	431	107049	321	12012	69
10287LF	165	10318	58	10419LF	165	1050011	431	107051	321	12013	69
10288	57	10319	58	10421	59	1050012	431	107052	321	12014	69
10288LF	165	10319B	58	10434LF	165	1050013	431	107053	321	12015	69
10289	57	10319LF	165	10438	60	1050014	431	107054	321	12016	69
10289LF	165	10320	58	10439	60	1050015	431	107060	320	12017	69
10290	57	10320B	58	10440	60	1050016	431	107061	320	12018	69
10290B	57	10320LF	165	10441	60	1050017	431	107062	320	12022	70
10290LF	165	10321	58	10442	60	1050018	431	107063	320	12023	70
10291	57	10321L	58	10443	60	1050020	431	107064	320	12024	70
10291B	57	10321LF	165	10444	60	1050021	431	107065	320	12025	70
10291LF	165	10322	58	10448	60	1050023	431	107066	320	12026	70
10292	57	10322LF	165	10448B	60	1050025	431	107067	320	12027	70
10293	57	10323	58	10449	60	1050026	431	107069	320	12028	70
10293B	57	10324	58	10450	60	1050029	431	107071	320	12029	70
10293LF	165	10324B	58	10451	60	1050030	431	107072	320	12030	70
10294	57	10324LF	165	10452	60	1050032	431	107073	320	12031	70
10294B	57	10325	58	10452B	60	1050033	431	107074	320	12032	70
10294LF	165	10325L	58	10453	60	10600	61	108025	237	12033	70
10295	57	10325LF	165	10454	60	10602	61	108026	237	12034	70
10295B	57	10326	58	10455	60	10611	61	108027	237	12035	70
10295L	57	10326LF	165	10455B	60	10612	61	108028	237	12036	70
10295LF	165	10327	58	10456	60	10613	61	108029	237	12037	70
10296	57	10328	58	10457	60	10614	61	108033	238	12038	70
10296LF	165	10328LF	165	10458	60	10615	61	108035	238	12039	70
10297	57	10329	58	10460	60	10616	61	108036	238	12040	70
10297LF	165	10329LF	165	10461	60	10617	61	108037	238	12041	70

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
12042.....	70	12112.....	72	12335.....	75	15012020.....	504	160122.....	505	17033232.....	537
12043.....	70	12114.....	71	12336.....	75	150122.....	504	160144.....	505	1703812.....	537
12044.....	70	12115.....	71	12337.....	75	150124.....	504	160166.....	505	170388.....	537
12045.....	70	12118.....	72	12339.....	75	15013232.....	504	160188.....	505	17041016.....	537
12046.....	70	12119.....	72	12341.....	75	150142.....	504	16021212.....	505	17041212.....	537
12047.....	70	12120.....	72	12342.....	75	150144.....	504	16021616.....	505	17041216.....	537
12048.....	70	12121.....	72	12343.....	75	150146.....	504	160244.....	505	17041220.....	537
12049.....	70	12127.....	73	12344.....	75	150148.....	504	160266.....	505	17041612.....	537
12050.....	70	12129.....	73	12345.....	75	1501612.....	504	160288.....	505	17041616.....	537
12051.....	70	12130.....	73	14001.....	62	150164.....	504	16031212.....	505	17041620.....	537
12052.....	70	12144.....	73	14011.....	62	150166.....	504	16031616.....	505	17041624.....	537
12053.....	70	12145.....	73	14016.....	62	150184.....	504	160344.....	505	17042016.....	537
12054.....	71	12146.....	73	14017.....	62	150186.....	504	160366.....	505	17042020.....	537
12055.....	70	12147.....	73	14018.....	62	150188.....	504	160388.....	505	17042024.....	537
12056.....	71	12148.....	73	14025.....	62	15021212.....	504	16090.....	86	17042032.....	537
12057.....	71	12149.....	73	14041212.....	504	1502128.....	504	16117.....	86	17042420.....	537
12058.....	71	12150.....	73	14041216.....	504	15021616.....	504	16118.....	86	17042424.....	537
12059.....	71	12151.....	73	1404126.....	504	15022020.....	504	16119.....	86	17042432.....	537
12060.....	71	12200.....	73	1404128.....	504	150222.....	504	16120.....	86	17043232.....	537
12061.....	71	12202.....	73	14041612.....	504	15022424.....	504	16121.....	86	1704812.....	537
12062.....	71	12205.....	75	14041616.....	504	150242.....	504	16122.....	86	170488.....	537
12063.....	71	12206.....	74	14041620.....	504	150244.....	504	16123.....	86	17064N.....	340
12064.....	71	12207.....	74	14042016.....	504	150246.....	504	16125.....	86	17064P.....	340
12065.....	71	12208.....	74	14042020.....	504	150264.....	504	16127.....	86	17065N.....	340
12066.....	71	12209.....	74	14042024.....	504	150266.....	504	16128.....	86	17066N.....	340
12067.....	71	12210.....	74	140422.....	504	150268.....	504	16129.....	86	17066P.....	340
12068.....	71	12211.....	74	14042424.....	504	1502812.....	504	16130.....	86	17068N.....	340
12069.....	71	12212.....	74	14043232.....	504	150284.....	504	16131.....	86	17068P.....	340
12070.....	71	12213.....	74	140442.....	504	150286.....	504	16133.....	86	17078N.....	340
12072.....	71	12214.....	74	140444.....	504	150288.....	504	16700001.....	432	17079N.....	340
12073.....	71	12215.....	74	140464.....	504	15031212.....	505	16700004.....	432	17079P.....	340
12074.....	71	12216.....	74	140466.....	504	15031216.....	505	16700007.....	432	17088N.....	340
12075.....	71	12217.....	74	140468.....	504	1503128.....	505	16700010.....	432	17090N.....	340
12076.....	71	12218.....	74	1404812.....	504	15031612.....	505	16700012.....	432	17091N.....	340
12077.....	71	12220.....	74	140484.....	504	15031616.....	505	16700013.....	432	17103N.....	340
12079.....	71	12221.....	74	140486.....	504	15031620.....	505	16700016.....	432	17105N.....	340
12080.....	71	12222.....	74	140488.....	504	15032020.....	505	16700017.....	432	17106N.....	340
12081.....	71	12224.....	74	14051212.....	504	150322.....	505	16700022.....	432	17124N.....	340
12082.....	71	12230.....	74	14051216.....	504	150344.....	505	16700024.....	432	17124P.....	340
12083.....	69	12250.....	75	1405128.....	504	150346.....	505	17001212.....	537	17126N.....	340
12084.....	69	12252.....	75	14051612.....	504	150364.....	505	17001216.....	537	17126P.....	340
12085.....	71	12254.....	75	14051616.....	504	150366.....	505	17001612.....	537	17127P.....	340
12086.....	71	12256.....	75	14052020.....	504	150368.....	505	17001616.....	537	17145P.....	340
12087.....	71	12257.....	75	140522.....	504	1503812.....	505	17001620.....	537	17146N.....	340
12088.....	71	12260.....	69	14052424.....	504	150384.....	505	17001624.....	537	17153N.....	340
12089.....	71	12261.....	69	14053232.....	504	150386.....	505	17002016.....	537	17153P.....	340
12090.....	71	12262.....	69	140542.....	504	150388.....	505	17002020.....	537	17154P.....	340
12091.....	72	12263.....	69	140544.....	504	15041212.....	505	17002024.....	537	17158P.....	340
12092.....	72	12264.....	69	140546.....	504	15041616.....	505	17002032.....	537	17176N.....	340
12093.....	72	12265.....	69	140564.....	504	150422.....	505	17002420.....	537	17179N.....	340
12094.....	72	12266.....	69	140566.....	504	150444.....	505	17002424.....	537	17179P.....	340
12095.....	72	12267.....	69	140568.....	504	150466.....	505	17002432.....	537	17180N.....	340
12096.....	72	12268.....	69	1405812.....	504	150488.....	505	17003232.....	537	17180P.....	340
12097.....	72	12269.....	69	140584.....	504	16001.....	86	1700812.....	537	17188N.....	340
12098.....	72	12270.....	69	140586.....	504	16002.....	86	170088.....	537	17188P.....	340
12099.....	70	12271.....	69	140588.....	504	16003.....	86	17031212.....	537	17189N.....	340
12100.....	72	12272.....	69	1410083.....	433	16004.....	86	17031216.....	537	17189P.....	340
12101.....	72	12273.....	69	1410118.....	433	16005.....	86	17031612.....	537	17190N.....	340
12102.....	72	12274.....	69	15011212.....	504	16006.....	86	17031616.....	537	17190P.....	340
12103.....	72	12275.....	69	15011216.....	504	16007.....	86	17031620.....	537	17193N.....	340
12104.....	70	12310.....	74	1501126.....	504	16009.....	86	17032016.....	537	17193P.....	340
12105.....	70	12326.....	75	1501128.....	504	16010.....	86	17032020.....	537	17194N.....	340
12107.....	70	12327.....	75	15011612.....	504	16011.....	86	17032024.....	537	17194P.....	340
12108.....	70	12328.....	75	15011616.....	504	16011212.....	505	17032420.....	537	17224N.....	340
12110.....	72	12329.....	75	1501168.....	504	16011616.....	505	17032424.....	537	17225N.....	340
12111.....	72	12330.....	75	15012016.....	504	16012.....	86	17032432.....	537	17225P.....	340



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
17233N.....	340	18032424.....	538	18067LF.....	167	18111.....	78	18157.....	79	18191.....	80
17233P.....	340	18033.....	77	18068.....	77	18114.....	78	18157LF.....	167	18191LF.....	168
17234N.....	340	18033232.....	538	18068DLF.....	167	18114LF.....	167	18158.....	79	18192.....	80
17234P.....	340	18033LF.....	166	18068L.....	77	18115.....	78	18158DLF.....	167	18192LF.....	168
17237N.....	340	18034.....	77	18068LF.....	167	18116.....	78	18158L.....	79	18193.....	80
17237P.....	340	18034LF.....	166	18069.....	77	18117.....	78	18158LF.....	167	18193L.....	80
17238N.....	340	18035.....	77	18069DLF.....	167	18118.....	78	18159.....	79	18193LF.....	168
17238P.....	340	18035L.....	77	18069L.....	77	18119.....	78	18159DLF.....	167	18194.....	80
18001.....	77	18035LF.....	166	18069LF.....	167	18122B.....	79	18159L.....	79	18194L.....	80
18001212.....	537	18036.....	77	18070.....	77	18122LF.....	167	18159LF.....	167	18194LF.....	168
18001216.....	537	18036LF.....	166	18070LF.....	167	18123.....	79	18160.....	79	18195.....	80
18001612.....	537	18037.....	77	18071.....	77	18123LF.....	167	18160LF.....	167	18195L.....	80
18001616.....	537	18037L.....	77	18071DLF.....	167	18124.....	79	18161LF.....	167	18195LF.....	168
18001620.....	537	18037LF.....	166	18071L.....	77	18124LF.....	167	18162.....	79	18196.....	80
18001624.....	537	18038.....	77	18071LF.....	167	18125.....	79	18162DLF.....	167	18196LF.....	168
18001LF.....	166	18038LF.....	166	18072.....	77	18125LF.....	167	18162L.....	79	18197.....	80
18002.....	77	18039.....	77	18076.....	78	18126.....	79	18162LF.....	167	18197LF.....	168
18002016.....	537	18039L.....	77	18076LF.....	167	18126L.....	167	18163.....	79	18198.....	80
18002020.....	537	18039LF.....	166	18077.....	78	18127.....	79	18163LF.....	167	18198LF.....	168
18002024.....	537	18040.....	77	18077LF.....	167	18127LF.....	167	18164.....	79	18199.....	80
18002420.....	537	18040L.....	77	18078.....	78	18128.....	79	18164LF.....	167	18199LF.....	168
18002424.....	537	18040LF.....	166	18078LF.....	167	18128LF.....	167	18165.....	79	18200.....	80
18002LF.....	166	18041.....	77	18079.....	78	18129.....	79	18165LF.....	167	18200LF.....	168
18003.....	77	18041212.....	538	18079LF.....	167	18129LF.....	167	18166.....	79	18201.....	80
18003232.....	537	18041216.....	538	18080.....	78	18130.....	79	18167.....	79	18201LF.....	168
18003LF.....	166	18041612.....	538	18080LF.....	167	18130LF.....	167	18167LF.....	167	18202.....	80
18004.....	77	18041616.....	538	18081.....	78	18135.....	79	18171LF.....	167	18202LF.....	168
18004LF.....	166	18041620.....	538	18081LF.....	167	18135LF.....	167	18175.....	80	18203.....	80
18005.....	77	18041624.....	538	18082.....	78	18136.....	79	18176.....	80	18203LF.....	168
18005LF.....	166	18041LF.....	166	18082LF.....	167	18136LF.....	167	18176LF.....	168	18204.....	80
18006.....	77	18042.....	77	18083.....	78	18137.....	79	18177.....	80	18204LF.....	168
18006LF.....	166	18042016.....	538	18083LF.....	167	18137LF.....	167	18177LF.....	168	18205.....	80
18007.....	77	18042020.....	538	18084.....	78	18142.....	79	18177TLF.....	168	18205LF.....	168
18007LF.....	166	18042024.....	538	18085.....	78	18142LF.....	167	18178.....	80	18206.....	80
18008.....	77	18042420.....	538	18086.....	78	18143.....	79	18178LF.....	168	18207.....	80
180088.....	537	18042424.....	538	18088.....	85	18143LF.....	167	18179.....	80	18208.....	85
18008LF.....	166	18042LF.....	166	18090.....	85	18144.....	79	18179L.....	80	18208LF.....	168
18009.....	77	18043.....	77	18092.....	85	18144LF.....	167	18179LF.....	168	18209.....	85
18009LF.....	166	18043232.....	538	18093.....	85	18145.....	79	18180.....	80	18209LF.....	168
18010.....	77	18046LF.....	166	18094.....	85	18145L.....	79	18180L.....	80	18210.....	85
18010LF.....	166	18047.....	84	18096.....	85	18145LF.....	167	18180LF.....	168	18210LF.....	168
18011.....	77	18047LF.....	166	18101.....	78	18146.....	79	18181.....	80	18211.....	85
18015.....	88	18048.....	84	18101B.....	78	18146L.....	79	18181LF.....	168	18211LF.....	168
18015.....	166	18048LF.....	166	18101LF.....	167	18146LF.....	167	18182.....	80	18212.....	85
18016.....	88	18049.....	84	18102.....	78	18147LF.....	167	18182LF.....	168	18212LF.....	168
18016.....	166	18049LF.....	166	18102B.....	78	18148.....	79	18183.....	80	18213.....	85
18017.....	88	18050.....	84	18102LF.....	167	18148LF.....	167	18183LF.....	168	18213LF.....	168
18017.....	166	18050LF.....	166	18103.....	78	18149.....	79	18184.....	80	18214.....	85
18018.....	88	18054LF.....	170	18103B.....	78	18149LF.....	167	18184L.....	80	18214LF.....	168
18018.....	166	18055LF.....	170	18103LF.....	167	18150.....	79	18184LF.....	168	18215.....	85
18019.....	88	18056LF.....	170	18104.....	78	18150LF.....	167	18185.....	80	18216.....	80
18028.....	84	18057LF.....	170	18104B.....	78	18151LF.....	167	18185LF.....	168	18219.....	81
18029.....	84	18062.....	77	18104LF.....	167	18152.....	79	18186.....	80	18220.....	81
18030.....	84	18062LF.....	167	18105.....	78	18152LF.....	167	18186LF.....	168	18220B.....	81
18031.....	84	18063.....	77	18105B.....	78	18153.....	79	18187.....	80	18220LF.....	168
18031212.....	538	18063LF.....	167	18105LF.....	167	18153L.....	79	18187L.....	80	18221.....	81
18031216.....	538	18064.....	77	18106.....	78	18153LF.....	167	18187LF.....	168	18221B.....	81
18031612.....	538	18064L.....	77	18106B.....	78	18154.....	79	18188.....	80	18221LF.....	168
18031616.....	538	18064LF.....	167	18106LF.....	167	18154DLF.....	167	18188L.....	80	18223.....	81
18031620.....	538	18065.....	77	18107.....	78	18154L.....	79	18188LF.....	168	18223B.....	81
18031624.....	538	18065LF.....	167	18107LF.....	167	18154LF.....	167	18189.....	80	18223LF.....	168
18032.....	84	18066.....	77	18108.....	78	18155.....	79	18189L.....	80	18224.....	81
18032016.....	538	18066DLF.....	167	18109.....	78	18155DLF.....	167	18189LF.....	168	18224B.....	81
18032020.....	538	18066L.....	77	18109LF.....	167	18155LF.....	167	18190.....	80	18224LF.....	168
18032024.....	538	18066LF.....	167	18110.....	78	18156.....	79	18190L.....	80	18225.....	81
18032420.....	538	18067.....	77	18110LF.....	167	18156LF.....	167	18190LF.....	168	18225B.....	81

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
18225LF.....	168	18254B.....	82	18295LF.....	169	196112.....	538	20031.....	97	20060C.....	113
18226.....	81	18254LF.....	168	18296.....	83	196116.....	538	20031C.....	112	20060N.....	104
18226LF.....	168	18255.....	82	18296LF.....	169	196120.....	538	20031N.....	103	20061.....	98
18227.....	81	18255LF.....	168	18297.....	83	196124.....	538	20032.....	97	20061C.....	113
18227LF.....	168	18256.....	82	18297LF.....	169	196132.....	538	20032N.....	103	20061N.....	104
18228.....	81	18256LF.....	168	18298.....	83	196212.....	538	20034.....	97	20061P.....	342
18228B.....	81	18257.....	82	18299.....	83	196216.....	538	20034C.....	112	20062.....	98
18228LF.....	168	18257LF.....	168	18299B.....	83	196220.....	538	20034N.....	103	20062C.....	113
18229.....	81	18258.....	82	18299LF.....	169	196224.....	538	20035.....	97	20062N.....	104
18229B.....	81	18258LF.....	168	18300.....	83	196232.....	538	20035C.....	112	20062P.....	342
18229LF.....	168	18259.....	82	18300LF.....	169	20001C.....	112	20035N.....	103	20063.....	98
18230.....	81	18259LF.....	168	18301.....	83	20009.....	101	20035P.....	342	20063C.....	113
18230LF.....	168	18260.....	82	18301LF.....	169	20010.....	101	20036.....	97	20063N.....	104
18231.....	81	18260LF.....	168	18302.....	83	20011.....	101	20036C.....	112	20063P.....	342
18232.....	81	18261.....	82	18303.....	83	20012.....	97	20036N.....	103	20064.....	99
18232B.....	81	18262.....	82	18304.....	83	20013.....	101	20036P.....	342	20065.....	99
18232LF.....	168	18262LF.....	168	18307.....	83	20015C.....	112	20037.....	97	20066.....	99
18233.....	81	18263.....	82	18307LF.....	169	20015N.....	103	20037C.....	112	20067.....	99
18233B.....	81	18263LF.....	168	18314.....	83	20016C.....	112	20037N.....	103	20068.....	99
18233LF.....	168	18264.....	82	18315LF.....	169	20016N.....	103	20038.....	97	20068N.....	104
18234.....	81	18264LF.....	168	18316.....	83	20017.....	97	20038N.....	103	20068P.....	342
18234B.....	81	18265.....	82	18321.....	84	20017C.....	112	20039.....	98	20069.....	99
18234LF.....	168	18266.....	82	18322.....	84	20017N.....	103	20045.....	98	20069N.....	104
18235.....	81	18267.....	82	18322LF.....	169	20018.....	97	20046.....	98	20069P.....	342
18235B.....	81	18267LF.....	168	18323.....	84	20018C.....	112	20046N.....	104	20070.....	99
18235LF.....	168	18268.....	82	18323LF.....	169	20018N.....	103	20047.....	98	20070P.....	342
18236.....	81	18268LF.....	168	18324.....	84	20018P.....	341	20047N.....	104	20071.....	99
18236B.....	81	18269.....	82	18325.....	84	20019.....	97	20048.....	98	20072.....	99
18236LF.....	168	18269LF.....	168	18325LF.....	169	20019C.....	112	20048N.....	104	20072N.....	104
18237.....	81	18270.....	82	18326.....	84	20019N.....	103	20049.....	98	20072P.....	342
18237B.....	81	18272.....	82	18327.....	84	20019P.....	341	20049C.....	113	20073.....	99
18237LF.....	168	18273.....	82	18327LF.....	169	20020.....	97	20049N.....	104	20073N.....	104
18238.....	81	18273B.....	82	18328.....	84	20020C.....	112	20050.....	98	20073P.....	342
18238B.....	81	18273LF.....	168	18329.....	84	20020N.....	103	20050C.....	113	20074.....	99
18238LF.....	168	18274.....	82	18330.....	84	20020P.....	341	20050N.....	104	20075.....	99
18239.....	81	18274B.....	82	18330LF.....	168	20021.....	97	20050P.....	342	20076.....	98
18239LF.....	168	18274LF.....	168	18331.....	84	20021C.....	112	20051.....	98	20076N.....	105
18240.....	81	18275.....	82	18332.....	84	20021N.....	103	20052.....	98	20077.....	98
18240LF.....	168	18275LF.....	168	18333.....	84	20021P.....	341	20053.....	98	20077C.....	113
18241.....	81	18276.....	82	18333LF.....	168	20022.....	97	20053C.....	113	20078.....	98
18241B.....	81	18276LF.....	168	18334.....	84	20022C.....	112	20053N.....	104	20078C.....	113
18241LF.....	168	18277.....	82	18334LF.....	168	20022N.....	103	20054.....	98	20079.....	98
18242.....	81	18277LF.....	168	18335.....	84	20023.....	98	20054C.....	113	20079C.....	113
18242LF.....	168	18278.....	82	18335LF.....	168	20023N.....	104	20054N.....	104	20079N.....	105
18243.....	81	18279.....	82	18336.....	84	20024C.....	112	20054P.....	342	20080.....	98
18243LF.....	168	18279LF.....	168	18336LF.....	168	20024N.....	103	20055.....	98	20080C.....	113
18245.....	81	18280.....	82	18338.....	84	20025.....	97	20055C.....	113	20080N.....	105
18245LF.....	168	18280LF.....	168	18338LF.....	168	20025C.....	112	20055N.....	104	20081.....	98
18246.....	81	18281.....	82	18339.....	84	20025N.....	103	20055P.....	342	20081C.....	113
18247.....	81	18281LF.....	168	18339LF.....	168	20026.....	97	20056.....	98	20081N.....	105
18247LF.....	168	18282.....	82	18500LF.....	169	20026C.....	112	20056C.....	113	20082.....	98
18248.....	81	18283.....	82	18501LF.....	169	20026N.....	103	20056N.....	104	20082C.....	113
18248B.....	81	18284.....	82	18502LF.....	169	20027.....	97	20056P.....	342	20082N.....	105
18248LF.....	168	18289LF.....	169	18503LF.....	169	20027C.....	112	20057.....	98	20083.....	98
18250.....	82	18290.....	83	18510LF.....	169	20028.....	97	20057C.....	113	20083C.....	113
18250LF.....	168	18290LF.....	169	18534.....	21	20028C.....	112	20057N.....	104	20083N.....	105
18251.....	82	18291.....	83	190112.....	538	20028N.....	103	20057P.....	342	20084.....	98
18251B.....	82	18291B.....	83	190116.....	538	20028P.....	341	20058.....	98	20084C.....	113
18251LF.....	168	18291LF.....	169	190120.....	538	20029.....	97	20058C.....	113	20084N.....	105
18252.....	82	18292.....	83	190124.....	538	20029C.....	112	20058N.....	104	20085.....	98
18252B.....	82	18292LF.....	169	190132.....	538	20029N.....	103	20058P.....	342	20085C.....	113
18252LF.....	168	18293.....	83	190212.....	538	20029P.....	341	20059.....	98	20085N.....	105
18253.....	82	18293LF.....	169	190216.....	538	20030.....	97	20059C.....	113	20086.....	98
18253B.....	82	18294.....	83	190220.....	538	20030C.....	112	20059N.....	104	20086C.....	113
18253LF.....	168	18294LF.....	169	190224.....	538	20030N.....	103	20059P.....	342	20086N.....	105
18254.....	82	18295.....	83	190232.....	538	20030P.....	341	20060.....	98	20087.....	98

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
20087C.....	113	20117.....	100	20164.....	100	20241.....	91	20333.....	91	20597C.....	114
20087N.....	105	20118.....	100	20164N.....	105	20242.....	91	20334.....	91	20598C.....	114
20088.....	98	20119.....	100	20165.....	100	20243.....	91	20337.....	91	20600.....	116
20088C.....	113	20120.....	100	20165C.....	114	20244.....	91	20338.....	91	20600N.....	108
20088N.....	105	20121C.....	114	20165N.....	105	20245.....	91	20339.....	91	20601.....	116
20089.....	99	20123N.....	106	20166.....	100	20248.....	92	20487C.....	115	20601N.....	108
20089C.....	114	20124.....	101	20166C.....	114	20249.....	92	20488C.....	115	20602.....	116
20089N.....	105	20124N.....	106	20166N.....	105	20250.....	92	20489C.....	115	20603.....	116
20089S.....	99	20125.....	101	20167.....	100	20251.....	92	20510.....	101	20603N.....	108
20090.....	99	20125N.....	106	20167C.....	114	20252.....	92	20510N.....	106	20604.....	116
20090C.....	114	20126.....	101	20167N.....	105	20253.....	92	20511.....	101	20604N.....	108
20090N.....	105	20127.....	101	20168N.....	105	20256.....	92	20511N.....	106	20610.....	116
20090S.....	99	20127C.....	115	20170.....	101	20257.....	92	20512.....	101	20610N.....	108
20091.....	99	20127N.....	106	20170C.....	115	20259.....	92	20512N.....	106	20611.....	116
20091C.....	114	20127P.....	341	20171.....	101	20260.....	92	20512P.....	342	206112.....	539
20091N.....	105	20128.....	101	20171C.....	115	20261.....	92	20513N.....	106	206116.....	539
20091S.....	99	20128C.....	115	20172.....	101	20262.....	92	20514N.....	106	20611N.....	108
20092.....	98	20128N.....	106	20172C.....	115	20263.....	92	20514P.....	342	20612.....	116
20092C.....	113	20128P.....	341	20173C.....	115	20265.....	92	20515C.....	112	206120.....	539
20092N.....	105	20129.....	101	20174.....	100	20268.....	92	20516C.....	112	206124.....	539
20093.....	100	20129C.....	115	20174C.....	114	20269.....	92	20517C.....	113	20612N.....	108
20094.....	99	20129N.....	106	20174N.....	105	20270.....	92	20518C.....	113	20613.....	116
20094N.....	105	20135C.....	114	20175C.....	115	20271.....	92	20519C.....	114	206132.....	539
20094S.....	99	20136C.....	114	20176C.....	115	20272.....	92	20524P.....	342	20613N.....	108
20095.....	100	20137C.....	114	20179C.....	115	20273.....	92	20525P.....	342	20614.....	116
20095N.....	105	20138C.....	114	20181C.....	114	20274.....	92	20528P.....	342	20614N.....	108
20097.....	100	20139C.....	114	20181N.....	105	20275.....	92	20529P.....	342	20619N.....	109
20098.....	100	20140C.....	114	20182C.....	112	20276.....	92	20530.....	98	20620N.....	109
20099.....	100	20142.....	101	20184C.....	113	20277.....	92	20530C.....	113	206212.....	539
20099C.....	114	20143.....	101	20184N.....	105	20278.....	92	20530N.....	104	206216.....	539
20100.....	100	20149C.....	112	20185C.....	112	20279.....	92	20531.....	98	20621N.....	109
20100C.....	114	20150.....	97	20187C.....	115	20282.....	92	20531C.....	113	206220.....	539
20101.....	100	20150C.....	112	20188C.....	115	20287.....	92	20531N.....	104	206224.....	539
20102.....	100	20150N.....	103	20189C.....	115	20288.....	92	20532.....	98	20622N.....	109
20103.....	100	20151.....	97	20192.....	99	20289.....	92	20532N.....	104	206232.....	539
20103C.....	114	20151C.....	112	20193C.....	115	20290.....	92	20535.....	98	20623N.....	109
20103N.....	106	20151N.....	103	20194C.....	115	20291.....	92	20535C.....	113	20624N.....	109
20104.....	100	20152.....	97	20195C.....	115	20292.....	92	20535N.....	105	20625N.....	109
20104C.....	114	20152C.....	112	20200.....	91	20293.....	92	20537C.....	113	20626N.....	109
20104N.....	106	20152N.....	103	20201.....	94	20294.....	92	20537N.....	105	20627N.....	109
20105.....	100	20152P.....	341	20203.....	94	20295.....	92	20538.....	98	20628N.....	109
20105C.....	114	20153.....	97	20204.....	94	20296.....	92	20538C.....	113	20629N.....	109
20105N.....	106	20153C.....	112	20205.....	94	20300.....	93	20538N.....	105	20630.....	116
20106.....	100	20153N.....	103	20206.....	94	20301.....	93	20539.....	98	20630N.....	109
20106C.....	114	20153P.....	341	20206N.....	108	20302.....	93	20539C.....	113	20631.....	116
20106N.....	106	20154.....	97	20207.....	94	20303.....	93	20539N.....	105	20631N.....	109
20107.....	100	20154C.....	112	20208.....	94	20304.....	93	20551.....	101	20632.....	116
20107C.....	114	20154N.....	103	20211.....	91	20305.....	93	20551C.....	112	20632N.....	109
20107N.....	106	20154P.....	341	20212.....	91	20308.....	93	20552.....	101	20633.....	116
20108.....	100	20155.....	97	20213.....	91	20309.....	93	20553.....	101	20633N.....	109
20108C.....	114	20155C.....	112	20214.....	91	20310.....	93	20553C.....	112	20634.....	116
20108N.....	106	20155N.....	103	20218.....	94	20311.....	93	20553N.....	106	20634N.....	109
20109.....	100	20156N.....	106	20219.....	94	20312.....	93	20555C.....	112	20635.....	116
20109C.....	114	20157N.....	106	20220.....	94	20313.....	93	20557C.....	115	20635N.....	109
20109N.....	106	20158C.....	114	20221.....	94	20314.....	93	20572C.....	113	20636.....	116
20110.....	100	20158N.....	106	20222.....	94	20317.....	93	20573C.....	113	20636N.....	109
20110C.....	114	20159N.....	105	20223.....	94	20318.....	93	20574C.....	113	20637.....	116
20110N.....	106	20160.....	100	20227.....	94	20319.....	93	20579C.....	113	20637N.....	109
20111.....	100	20160C.....	114	20228.....	94	20320.....	93	20580C.....	113	20638.....	116
20111C.....	114	20161.....	100	20229.....	94	20321.....	93	20581C.....	113	20638N.....	109
20111N.....	106	20162.....	100	20230.....	94	20322.....	93	20582C.....	113	20642.....	117
20112.....	100	20162C.....	114	20231.....	94	20323.....	93	20583C.....	113	20642N.....	109
20112N.....	106	20162N.....	105	20232.....	94	20324.....	93	20584C.....	113	20655.....	117
20113.....	100	20163.....	100	20235.....	91	20327.....	93	20591C.....	114	20655N.....	109
20115.....	100	20163C.....	114	20237.....	91	20328.....	93	20595C.....	114	20656.....	117
20116.....	100	20163N.....	105	20240.....	91	20330.....	92	20596C.....	114	20656N.....	109

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
20657	117	20712	117	20756P	341	20846N	104	21007	26	22622424	539
20657N	109	20712N	109	20758P	341	20847N	104	21009	26	22623232	539
20658	117	20713	117	20762N	105	20848N	105	21021	26	23611212	539
20658N	109	20713N	109	20763P	342	20850N	106	21023	26	23611616	539
20659	117	20714	117	20775P	343	20851N	105	21025	26	23612020	539
20659N	109	20714N	109	20776P	343	20852N	105	21027	26	23612424	539
20660	116	20715N	109	20777P	343	20853N	105	21043	26	23621212	539
20660N	108	20716N	110	20778P	344	20854	117	21046	26	23621616	539
20661	116	20717	117	20779P	344	20855	117	21049	26	23622020	539
20661N	108	20717N	110	20780	462	20856	117	21082	26	23622424	539
20668N	110	20718	117	20780C	115	20857	117	21083	26	24002	88
20669N	110	20718N	110	20781C	115	20859	117	21084	26	24003	88
20670	117	20719	117	20782C	115	20860	117	21095	26	24004	88
20670N	110	20719N	110	20785C	115	20861	116	21097	26	24005	88
20672	117	20720	117	20786C	115	20862	116	21099	26	24006	88
20672N	110	20720N	110	20787C	115	20876P	343	21109	26	24007	88
20673	117	20721	117	20788C	115	20878P	343	21111	26	24008	88
20673N	110	20721N	110	20789C	115	20880P	343	21113	26	24031010	506
20674	117	20722N	110	20790	117	20881P	343	21115	26	2403108	506
20674N	110	20723N	108	20801	116	20900P	343	21117	26	24031210	506
20675	117	20724N	108	20801N	109	20901P	343	21119	26	24031212	506
20676	117	20724P	341	20803	117	20904P	343	21121	26	2403126	506
20676N	110	20725N	108	20803N	109	20905P	343	21133	26	2403128	506
20677	117	20725P	341	20805	117	20910P	344	21151	26	24031414	506
20677N	110	20726N	108	20805N	109	20925P	343	21153	26	24031612	506
20678	117	20727C	115	20806	116	20927P	343	21155	26	24031616	506
20678N	110	20727N	108	20807	116	20936P	342	21159	26	24032016	506
20679	117	20728C	115	20807N	108	20937P	342	21161	26	24032020	506
20679N	110	20728N	108	20808	116	20938P	342	21174	313	240322	506
20680	117	20729N	108	20808N	108	20939P	342	21175	313	240324	506
20680N	110	20730N	108	20809	117	20940P	342	21176	313	240332	506
20682	117	20731N	110	20809N	110	20941P	342	21177	313	240333	506
20682N	110	20732N	110	20810	117	20944P	342	21178	313	240344	506
20683	117	20733N	110	20810N	110	20950P	343	21179	313	240355	506
20683N	110	20733P	341	20811	117	20951P	343	21180	313	240364	506
20684	117	20734N	110	20811N	110	20953P	343	21193	26	240366	506
20684N	110	20734P	341	20813	118	20954P	343	21195	26	240384	506
20685	117	20735N	110	20813N	108	20955P	343	21207	26	240386	506
20686	117	20736N	110	20814	118	20956P	343	22008	88	240388	506
20686N	110	20736P	341	20814N	108	20958P	342	22008A	88	24041012	507
20687	117	20737N	110	20815	118	20960P	342	22008LF	166	2404104	507
20687N	110	20738N	108	20815N	108	20961P	342	22009	88	2404106	507
20688	117	20739N	108	20816	118	20964P	342	22009A	88	2404108	507
20688N	110	20740	116	20817	118	20965P	342	22009LF	166	24041212	507
20689	117	20740N	108	20818	118	20966P	342	22010	88	24041216	507
20689N	110	20740P	343	20819	118	20967P	342	22010A	88	2404126	507
20690	117	20741N	108	20820	118	20968P	342	22010B	88	2404128	507
20690N	110	20742N	108	20821	118	20969P	342	22010LF	166	24041612	507
20691N	110	20742P	343	20822	118	20970P	343	22011	88	24041616	507
20692	117	20743N	108	20823	118	20971P	343	22011A	88	24041620	507
20698	117	20744N	108	20824	118	20972P	343	22011LF	166	24041624	507
20699	117	20745N	108	20825	118	20973P	342	22012	88	24042012	507
20700N	109	20745P	343	20826	118	20974P	342	22012LF	166	24042016	507
20701N	109	20746	118	20827	118	20975P	344	22013	88	24042020	507
20702N	109	20746N	108	20827	118	20976P	344	22013LF	166	24042024	507
20702P	341	20747P	343	20830C	114	20977P	344	22014	88	240422	507
20703N	109	20748N	108	20831C	114	20980P	344	22015	88	24042416	507
20704N	109	20748P	343	20832C	114	20981P	344	22611212	539	24042420	507
20705N	109	20749N	108	20833C	114	20983P	344	22611616	539	24042424	507
20706N	109	20750N	108	20834C	114	20985P	344	22612020	539	24042432	507
20707N	109	20750P	341	20835C	114	20986P	344	22612424	539	240432	507
20708N	109	20751N	108	20841N	104	20988P	344	22613232	539	24043224	507
20709N	109	20752N	108	20842N	104	20989P	344	226188	539	24043232	507
20710N	109	20753N	108	20843N	104	20990P	344	22621212	539	240434	507
20711	117	20754P	341	20844N	104	20993P	342	22621616	539	240442	507
20711N	109	20755P	341	20845N	104	21003	26	22622020	539	240444	507

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
240446.....	507	24084.....	508	2503106.....	509	26062.....	89	27006.....	88	28017.....	2
240448.....	507	24085.....	508	2503108.....	509	26063.....	89	270066.....	510	28018.....	2
2404612.....	507	24086.....	508	25031212.....	509	26064.....	89	27008.....	510	28018LF.....	158
240462.....	507	24088.....	508	25031216.....	509	26065.....	89	27010.....	511	28019.....	2
240464.....	507	25001.....	87	25031616.....	509	26066.....	89	270112.....	511	28019LF.....	158
240466.....	507	25001010.....	508	25031620.....	509	26068.....	89	270116.....	511	28020.....	2
240468.....	507	25001212.....	508	25032016.....	509	26079.....	89	270120.....	511	28021B.....	2
2404812.....	507	25001612.....	508	25032020.....	509	26102.....	89	27014.....	511	28022.....	2
2404816.....	507	25001616.....	508	250322.....	509	26103.....	89	27015.....	511	28023.....	2
240484.....	507	25002.....	87	25033.....	87	26105.....	89	27016.....	511	28024.....	2
240486.....	507	25002020.....	508	250342.....	509	26142.....	89	27018.....	511	28024LF.....	158
240488.....	507	250022.....	508	250344.....	509	26145.....	89	27020.....	511	28025.....	2
2405106.....	507	25002424.....	508	250346.....	509	26146.....	89	270212.....	511	28025LF.....	158
2405108.....	507	25003.....	87	2503612.....	509	26153.....	89	270216.....	511	28026.....	2
24051212.....	507	25003232.....	508	250362.....	509	26175.....	89	27024.....	511	28026LF.....	158
24051216.....	507	250044.....	508	250364.....	509	26176.....	89	27026.....	511	28027.....	2
2405128.....	507	250055.....	508	250366.....	509	26177.....	89	27028.....	511	28027LF.....	158
24051612.....	507	250064.....	508	250368.....	509	26178.....	89	27030.....	511	28028.....	2
24051616.....	507	250066.....	508	250384.....	509	26179.....	89	270312.....	511	28028LF.....	158
24052020.....	507	250086.....	508	250386.....	509	26180.....	89	270316.....	511	28029.....	3
240522.....	507	250088.....	508	250388.....	509	26180L.....	89	27034.....	511	28030.....	3
240532.....	507	2501106.....	509	25062.....	87	26181.....	89	27036.....	511	28031.....	3
240542.....	507	2501108.....	509	25064.....	87	26182.....	89	27038.....	511	28032.....	2
240544.....	507	25011212.....	509	25175.....	87	26183.....	89	27040.....	511	28032LF.....	158
240546.....	507	25011216.....	509	25176.....	87	26184.....	89	270412.....	511	28033.....	2
240564.....	507	2501128.....	509	25177.....	87	26188.....	89	270416.....	511	28033LF.....	158
240566.....	507	25011612.....	509	25179.....	87	26189.....	89	27044.....	511	28034.....	2
2405812.....	507	25011616.....	509	25219.....	87	26190.....	89	27046.....	511	28034LF.....	158
240584.....	507	25011620.....	509	25220.....	87	26193.....	89	27048.....	511	28035.....	2
240586.....	507	25012016.....	509	25221.....	87	26194.....	89	27051212.....	511	28035LF.....	158
240588.....	507	25012020.....	509	25224.....	87	26195.....	89	27051616.....	511	28036.....	2
2406104.....	508	25012024.....	509	26001.....	89	26198.....	89	27052020.....	511	28036LF.....	158
2406106.....	508	250122.....	509	26001LF.....	166	26220.....	89	270544.....	511	28038.....	3
2406108.....	508	25012420.....	509	26002.....	89	26220B.....	89	270566.....	511	28039.....	3
24061210.....	508	25012424.....	509	26002LF.....	166	26221.....	89	270588.....	511	28039LF.....	158
24061216.....	508	25013232.....	509	26003.....	89	26221B.....	89	27061212.....	511	28041.....	3
2406124.....	508	250142.....	509	26003LF.....	166	26223.....	89	27061616.....	511	28041LF.....	159
2406126.....	508	250144.....	509	26004.....	89	26224.....	89	270644.....	511	28042.....	3
2406128.....	508	250146.....	509	26004LF.....	166	26224B.....	89	270666.....	511	28042LF.....	159
24061612.....	508	250148.....	509	26005.....	89	26225.....	89	270688.....	511	28043.....	3
24061620.....	508	2501612.....	509	26005LF.....	166	26225B.....	89	28001.....	2	28043LF.....	159
2406164.....	508	250162.....	509	26007.....	89	26226.....	89	28001LF.....	158	28044.....	3
2406166.....	508	250164.....	509	26007LF.....	166	26228.....	89	28002.....	2	28044LF.....	159
2406168.....	508	250166.....	509	26008.....	89	26229.....	89	28002LF.....	158	28045.....	3
24062012.....	508	250168.....	509	26008LF.....	166	26232.....	89	28003.....	2	28045LF.....	159
24062012.....	508	2501812.....	509	26011.....	89	26233.....	89	28003LF.....	158	28046.....	3
24062016.....	508	2501816.....	509	26011212.....	510	26233B.....	89	28004.....	2	28047.....	3
2406208.....	508	250184.....	509	26014.....	89	26234.....	89	28004LF.....	158	28048.....	3
24062416.....	508	250186.....	509	260144.....	510	26235.....	89	28005.....	2	28049.....	3
24062420.....	508	250188.....	509	26015LF.....	166	26237.....	89	28005LF.....	158	28050.....	3
24063224.....	508	25021212.....	509	260166.....	510	26238.....	89	28009.....	2	28051.....	3
240664.....	508	2502128.....	509	26016LF.....	166	26291.....	89	28009LF.....	158	28052.....	3
240665.....	508	25021612.....	509	260188.....	510	26292.....	89	28010.....	2	28053B.....	2
240668.....	508	25021616.....	509	26021.....	89	26293.....	89	28010LF.....	158	28057.....	3
2406812.....	508	25022020.....	509	26023.....	89	26296.....	89	28011.....	2	28058.....	3
240684.....	508	250242.....	509	260244.....	510	27001.....	88	28011LF.....	158	28058L.....	3
240686.....	508	250244.....	509	260266.....	510	270010.....	510	28012.....	2	28058LF.....	159
240810.....	508	250246.....	509	260288.....	510	270012.....	510	28012LF.....	158	28059.....	3
240812.....	508	250262.....	509	26031010.....	510	270014.....	510	28013.....	2	28059.....	466
240814.....	508	250264.....	509	26031212.....	510	270016.....	510	28013LF.....	158	28059.....	466
240816.....	508	250266.....	509	26031616.....	510	27002.....	88	28014.....	2	28059.....	468
24082.....	508	250268.....	509	260322.....	510	270022.....	510	28015.....	2	28059EHLF.....	159
240820.....	508	250284.....	509	260333.....	510	27003.....	88	28015B.....	2	28059L.....	3
240824.....	508	250286.....	509	260344.....	510	270044.....	510	28015LF.....	158	28059LF.....	159
24083.....	508	250288.....	509	260366.....	510	27005.....	88	28016.....	2	28060.....	3
240832.....	508	25031012.....	509	260388.....	510	270055.....	510	28016B.....	2	28060L.....	3

## NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
28060LF.....	159	28105.....	5	28145.....	7	28188.....	4	28213L.....	8	28262LF.....	160
28061.....	3	28105L.....	5	28145LF.....	160	28189.....	4	28213LF.....	160	28263.....	5
28061L.....	3	28105LF.....	159	28146.....	7	28189LF.....	160	28214.....	8	28264.....	5
28061LF.....	159	28106.....	5	28146LF.....	160	28190.....	9	28214L.....	8	28264LF.....	160
28062.....	3	28106L.....	5	28147.....	7	28190L.....	9	28214LF.....	160	28265.....	5
28062L.....	3	28106LF.....	159	28147LF.....	160	28190LF.....	160	28215.....	8	28265B.....	5
28062LF.....	159	28107.....	5	28148.....	7	28191.....	9	28215L.....	8	28265LF.....	160
28063.....	3	28107L.....	5	28148LF.....	160	28191L.....	9	28215LF.....	160	28266.....	10
28067.....	4	28107LF.....	159	28149.....	7	28191LF.....	160	28216L.....	8	28266B.....	10
28067LF.....	159	28108.....	5	28149LF.....	160	28192.....	9	28216LF.....	160	28266BLF.....	161
28068.....	4	28108LF.....	159	28150.....	7	28192L.....	9	28218.....	8	28266LF.....	161
28068LF.....	159	28109L.....	5	28151.....	7	28192LF.....	160	28220.....	8	28267.....	10
28069.....	4	28109LF.....	159	28152.....	7	28193.....	9	28220L.....	8	28267B.....	10
28069LF.....	159	28110L.....	5	28153.....	7	28193L.....	9	28220LF.....	160	28267BLF.....	161
28070.....	4	28110LF.....	159	28154.....	7	28193LF.....	160	28221.....	8	28267LF.....	161
28070LF.....	159	28111.....	5	28155.....	7	28194.....	9	28221L.....	8	28268.....	10
28071.....	4	28111L.....	5	28156.....	4	28194L.....	9	28221LF.....	160	28268B.....	10
28071LF.....	159	28111LF.....	159	28156LF.....	160	28194LF.....	160	28222.....	8	28268LF.....	161
28075.....	4	28112.....	5	28156S.....	4	28195.....	9	28222L.....	8	28269.....	10
28075LF.....	159	28112LF.....	159	28156SLF.....	160	28195L.....	9	28222LF.....	160	28269B.....	10
28076.....	4	28113.....	5	28157.....	4	28195LF.....	160	28223.....	8	28269LF.....	161
28076LF.....	159	28113LF.....	159	28157LF.....	160	28196.....	9	28223L.....	8	28270B.....	10
28077.....	4	28114.....	5	28157S.....	4	28196L.....	9	28223LF.....	160	28272LF.....	161
28077LF.....	159	28114LF.....	159	28157SLF.....	160	28196LF.....	160	28224.....	8	28273LF.....	161
28078.....	4	28115.....	5	28158.....	4	28197.....	9	28224L.....	8	28274.....	10
28078LF.....	159	28115LF.....	159	28158LF.....	160	28198.....	9	28224LF.....	160	28275.....	10
28079.....	4	28116.....	6	28158SLF.....	160	28198LF.....	160	28225.....	8	28275LF.....	161
28079LF.....	159	28116LF.....	159	28159.....	4	28199.....	9	28225L.....	8	28276.....	10
28080.....	4	28117.....	6	28159LF.....	160	28199LF.....	160	28225LF.....	160	28276B.....	10
28084.....	6	28117LF.....	159	28159SLF.....	160	28200.....	6	28227.....	8	28276LF.....	161
28084LF.....	159	28118.....	6	28160.....	4	28201.....	6	28230.....	8	28281.....	10
28084SLF.....	159	28118LF.....	159	28160LF.....	160	28201LF.....	159	28230LF.....	161	28281F.....	10
28085.....	6	28119.....	6	28160SLF.....	160	28201S.....	7	28231.....	8	28281LF.....	161
28085LF.....	159	28120.....	6	28161.....	4	28201SLF.....	159	28231LF.....	161	28282.....	10
28085SLF.....	159	28121.....	6	28165.....	5	28202.....	6	28232.....	8	28282F.....	10
28086.....	6	28121LF.....	159	28165LF.....	160	28202LF.....	159	28232LF.....	161	28282LF.....	161
28086LF.....	159	28122.....	6	28166.....	5	28202S.....	7	28233.....	8	28283.....	10
28086SLF.....	159	28123.....	7	28166LF.....	160	28202SLF.....	159	28233LF.....	161	28283LF.....	161
28087.....	6	28124.....	7	28167.....	5	28203.....	6	28234.....	8	28284.....	10
28087LF.....	159	28125.....	7	28167LF.....	160	28203LF.....	159	28234LF.....	161	28284LF.....	161
28087SLF.....	159	28126.....	7	28168.....	5	28203S.....	7	28238.....	8	28285.....	10
28088.....	6	28127.....	7	28168LF.....	160	28203SLF.....	159	28239.....	8	28290.....	11
28088LF.....	159	28128.....	6	28169.....	5	28204.....	6	28240.....	8	28290LF.....	161
28088SLF.....	159	28129.....	6	28169LF.....	160	28204LF.....	159	28245.....	9	28291.....	11
28089.....	6	28130.....	6	28174.....	6	28204S.....	7	28245LF.....	161	28291LF.....	161
28090.....	6	28131.....	7	28175.....	6	28204SLF.....	159	28246.....	9	28292.....	11
28091.....	5	28131LF.....	160	28176.....	6	28205.....	6	28246LF.....	161	28292LF.....	161
28092.....	6	28132.....	7	28178.....	4	28205LF.....	159	28247.....	9	28293.....	11
28093.....	6	28132LF.....	160	28179.....	4	28205S.....	7	28247LF.....	161	28294.....	11
28093LF.....	159	28133.....	7	28180.....	4	28207.....	9	28248.....	9	28295.....	11
28094.....	6	28133LF.....	160	28180LF.....	160	28208.....	9	28248LF.....	161	28296.....	11
28094LF.....	159	28134.....	7	28181.....	4	28208L.....	9	28249.....	9	28298.....	11
28095.....	6	28134LF.....	160	28181L.....	4	28208LF.....	160	28249LF.....	161	28299.....	12
28095LF.....	159	28135.....	7	28181LF.....	160	28209.....	9	28253.....	9	28300.....	12
28096.....	6	28135LF.....	160	28182.....	4	28209LF.....	160	28253LF.....	161	28300SS.....	13
28096LF.....	159	28136.....	7	28182LF.....	160	28210.....	8	28254.....	9	28301.....	12
28097LF.....	159	28140.....	7	28183.....	4	28211.....	8	28254LF.....	161	28301SS.....	13
28101.....	5	28140LF.....	160	28183L.....	4	28211L.....	8	28255.....	9	28302.....	12
28102.....	5	28141.....	7	28183LF.....	160	28211LF.....	160	28255LF.....	161	28303.....	12
28102L.....	5	28141LF.....	160	28184.....	4	28212.....	8	28256.....	9	28303SS.....	13
28102LF.....	159	28142.....	7	28184L.....	4	28212.....	466	28259.....	5	28304.....	12
28103.....	5	28142LF.....	160	28184LF.....	160	28212.....	468	28260.....	5	28304SS.....	13
28103LF.....	159	28143.....	7	28185.....	4	28212EHLF.....	160	28261.....	5	28306.....	13
28104.....	5	28143LF.....	160	28185L.....	4	28212L.....	8	28261B.....	5	28307.....	13
28104L.....	5	28144.....	7	28185LF.....	160	28212LF.....	160	28261LF.....	160	28308.....	13
28104LF.....	159	28144LF.....	160	28187.....	4	28213.....	8	28262.....	5	28309.....	13



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
28310	13	28427	9	28534	466	28586	454	28660P	334	28704P	333
28311	12	28430	5	28534	466	28587	454	28660W	334	28704W	333
28312	13	28440	11	28534	467	28589	453	28661P	334	28705	66
28313	12	28441	11	28534	467	28592	454	28661W	334	28705W	333
28315	12	28442	11	28534	468	28593	454	28663P	334	28706	66
28316	12	28443	11	28534	468	28594	454	28663W	334	28706W	333
28317	12	28444	460	28534	468	28595	454	28664P	334	28707	66
28318	12	28445	460	28534B	452	28597	454	28664W	334	28707W	333
28319	12	28446	460	28534B	467	28601	454	28665	457	28708	66
28320	13	28450	460	28534SS	453	28601B	333	28665W	334	28709	66
28321	12	28452	460	28535	452	28601W	333	28666	457	28710	66
28322	12	28456	460	28536	456	28602B	333	28666P	334	28711	66
28325	13	28457	460	28540	451	28602W	333	28666W	334	28712	66
28328	11	28458	460	28540	466	28603	454	28667	457	28713	66
28329	11	28460	460	28540	466	28603B	333	28667W	334	28714	66
28330	11	28464	460	28540	466	28603W	333	28668	457	28715	66
28331	11	28465	460	28540	467	28604B	333	28668P	334	28716	66
28332	11	28467	460	28540S	451	28604W	333	28668W	334	28717	66
28333	11	28468	460	28540S	467	28605	457	28669	457	28718	66
28335	11	28469	460	28540S	467	28605B	333	28670	457	28719	66
28336	11	28470	460	28540S	468	28605W	333	28671	457	28720W	333
28337	11	28475	7	28540S	468	28606W	333	28671P	334	28721W	333
28338	11	28481	7	28540S	468	28607W	333	28671W	334	28722F	67
28339	11	28487	7	28540S	468	28608	457	28672	457	28723P	333
28340	11	28493	7	28541	451	28608W	333	28672P	334	28723W	333
28345	13	28497	7	28541S	451	28609W	333	28672W	334	28724F	67
28346	12	28498	7	28545	452	28611B	334	28673	457	28724W	333
28347	12	28499	7	28546	452	28611W	334	28674W	334	28725W	333
28348	12	28500	455	28546	466	28612B	334	28675	457	28726W	333
28350	458	28501	455	28546	466	28612P	334	28675P	334	28727W	333
28351	458	28501B	455	28546	466	28612W	334	28675W	334	28728F	67
28352	458	28502	455	28546	467	28613B	334	28676	457	28729F	67
28353	458	28503	455	28546	467	28613P	334	28677	457	28731F	67
28354	458	28504	455	28546	468	28613W	334	28678P	334	28733F	67
28363	459	28507	455	28546	468	28614B	334	28678W	334	28734F	67
28364	459	28507S	455	28546	468	28614P	334	28679	457	28736F	67
28365	459	28508	455	28546	468	28614W	334	28679W	334	28738F	67
28366	459	28509	455	28546B	452	28615P	334	28680	457	28740F	67
28367	459	28510	455	28546B	467	28615W	334	28680P	334	28741P	333
28368	459	28510B	455	28546SS	453	28616W	334	28680W	334	28741W	333
28369	459	28511	455	28547	452	28617W	334	28681	457	28742F	67
28370	459	28512	455	28552	451	28618W	334	28682W	334	28742P	333
28371	459	28512	468	28552	467	28619	457	28683	456	28743P	333
28372	459	28513	455	28552S	451	28619P	334	28683W	334	28743W	333
28373	459	28514S	455	28553	451	28620	457	28684	456	28744P	333
28374	459	28515	455	28553S	451	28620W	334	28685	456	28744W	333
28375	459	28516	455	28557	452	28621W	334	28685W	334	28745W	333
28376	459	28516S	455	28558	452	28622W	334	28686	456	28746W	333
28377	459	28517	455	28559	452	28623B	334	28687	456	28747W	333
28378	459	28518	456	28560	453	28623W	334	28688	457	28748	66
28379	459	28519S	455	28560SS	453	28624B	334	28690	453	28749	66
28380	459	28520	456	28561	452	28624W	334	28691	453	28752	66
28381	459	28521	456	28562	451	28625B	334	28693P	335	28753	66
28382	459	28522	456	28562S	451	28625W	334	28694P	335	28754	66
28400	107	28523	456	28564	451	28628B	334	28695P	335	28756	66
28401	107	28524	456	28564S	451	28628W	334	28696P	335	28760F	67
28402	107	28525S	455	28565	451	28639	457	28697P	335	28761P	335
28403	107	28525S	468	28565S	452	28640	457	28698P	335	28761W	335
28404	107	28526S	455	28566	451	28640W	335	28699P	335	28762F	67
28405	107	28528	456	28566S	452	28641W	335	28701	66	28762P	335
28407	107	28530	456	28578	454	28642W	335	28701W	333	28762W	335
28415	17	28531	456	28579	453	28643W	335	28702	66	28763P	335
28417	17	28532	456	28579SS	453	28651	457	28702P	333	28763W	335
28424	9	28533	452	28583	454	28652	457	28703	66	28764P	335
28425	9	28534	452	28584	454	28659P	334	28703W	333	28764W	335
28426	9	28534	466	28585	454	28659W	334	28704	66	28765W	335

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
28766F.....	67	3000006.....	417	30031LF.....	163	30083LF.....	163	30210.....	31
28767W.....	335	3000008.....	417	30032.....	43	30087.....	39	30210SS.....	36
28768F.....	67	300001.....	458	30032LF.....	163	30088.....	39	30211.....	31
28768W.....	335	300002.....	458	30032SS.....	43	30088LF.....	163	30212.....	31
28770F.....	67	3000020.....	417	30033.....	43	30088S.....	39	30213.....	31
28772F.....	67	300003.....	458	30033LF.....	163	30093.....	39	30214.....	31
28773F.....	67	300004.....	458	30033SS.....	43	30093L.....	39	30215.....	31
28774F.....	67	300005.....	417	30034.....	43	30094.....	39	30215SS.....	36
28777F.....	67	300006.....	458	30034SS.....	43	30098.....	40	30216.....	31
28778F.....	67	300007.....	458	30035.....	43	30098LF.....	163	30217.....	31
28780F.....	67	300008.....	458	30039.....	43	30099.....	40	30218.....	31
28781F.....	67	30001.....	38	30039LF.....	163	30100.....	40	30219.....	31
28783F.....	67	300010.....	417	30040.....	43	30101.....	40	30220.....	32
28784F.....	67	300012.....	417	30040LF.....	163	30103.....	41	30221.....	32
28786F.....	67	300014.....	458	30040SS.....	43	30103B.....	41	30222.....	32
28803W.....	335	300015.....	458	30041.....	43	30103LF.....	163	30223.....	32
28811P.....	334	300016.....	417	30041LF.....	163	30103P.....	339	30224.....	32
28811W.....	334	300017.....	458	30041SS.....	43	30123.....	42	30225.....	32
28812P.....	334	300018.....	458	30042.....	43	30128.....	42	30226.....	32
28814P.....	334	300019.....	458	30042LF.....	163	30133.....	42	30227.....	32
28815W.....	334	30001LF.....	163	30042SS.....	43	30135.....	42	30229.....	32
28816P.....	334	300020.....	458	30043.....	43	30136.....	42	30230.....	33
28819P.....	333	300021.....	458	30044.....	43	30137.....	42	30230LF.....	161
28819W.....	333	300022.....	458	30045.....	43	30138.....	42	30230SS.....	36
28820P.....	333	300023.....	458	30046.....	43	30139.....	42	30231.....	33
28820W.....	333	300024.....	458	30047.....	39	30140.....	47	30232.....	33
28821P.....	333	300026.....	458	30047LF.....	163	30140LF.....	163	30233.....	33
28957.....	66	300028.....	458	30048.....	39	30141.....	47	30234.....	33
28958.....	66	300031.....	458	30048LF.....	163	30142.....	41	30234SS.....	36
28959.....	66	300032.....	458	30049.....	39	30149.....	42	30235.....	33
28960.....	66	300033.....	458	30049LF.....	163	30150.....	41	30236.....	33
28961.....	66	300034.....	458	30050.....	42	30150B.....	41	30237.....	33
28962.....	66	300035.....	458	30050LF.....	169	30150R.....	41	30238.....	31
28963.....	66	300036.....	458	30051.....	42	30151.....	41	30239.....	31
28964.....	66	300037.....	458	30051LF.....	169	30160.....	47	30240.....	33
28966.....	66	30006.....	38	30052.....	42	30161.....	46	30241.....	33
28969.....	66	30006LF.....	163	30052LF.....	163	30162.....	46	30243.....	33
28970.....	66	30011.....	38	30053.....	40	30163.....	46	30245.....	33
28971.....	66	30011LF.....	163	30053LF.....	163	30180.....	41	30246.....	33
28972.....	66	30012.....	38	30054.....	40	30180F.....	41	30247.....	33
28973.....	67	30012LF.....	163	30055.....	39	30181.....	39	30249.....	33
28974.....	67	30013.....	38	30055LF.....	169	30182.....	39	30249.....	33
28975.....	67	30016.....	38	30056.....	39	30183.....	39	30250.....	34
28988.....	442	30016LF.....	163	30058.....	40	30184.....	39	30251.....	34
28989.....	442	30017.....	38	30058LF.....	163	30200.....	31	30252.....	34
28990.....	442	30018.....	38	30058S.....	40	30200LF.....	161	30253.....	34
28991.....	442	30019.....	38	30058SLF.....	163	30200SS.....	36	30254.....	34
28996.....	317	30020.....	38	30063.....	40	30201.....	31	30255.....	34
28997.....	317	30021.....	40	30063BE.....	40	30201LF.....	161	30257.....	34
28998.....	317	30021LF.....	163	30063LF.....	163	30201SS.....	36	30258.....	34
28999.....	317	30022.....	40	30063S.....	40	30202.....	31	30259.....	34
29900.....	457	30022LF.....	163	30064.....	40	30202.....	31	30260.....	34
29901.....	457	30025.....	43	30065.....	40	30203.....	31	30261.....	34
29902.....	457	30025LF.....	163	30066.....	40	30203LF.....	161	30264.....	34
29903.....	457	30026.....	41	30066LF.....	163	30203SS.....	36	30265.....	34
29904.....	457	30027.....	43	30067.....	40	30204.....	31	30266.....	34
29905.....	457	30027LF.....	163	30067LF.....	163	30204LF.....	161	30266SS.....	36
29909.....	457	30027SS.....	43	30068.....	40	30204SS.....	36	30267.....	34
29910.....	457	30028.....	43	30068LF.....	163	30205.....	31	30268.....	34
29911.....	457	30028LF.....	163	30073.....	40	30206.....	31	30269.....	34
29912.....	457	30028SS.....	43	30073LF.....	163	30206LF.....	161	30269SS.....	36
29913.....	457	30029.....	43	30074.....	40	30206SS.....	36	30270.....	34
29914.....	457	30029LF.....	163	30075.....	40	30207.....	31	30271.....	33
30000.....	38	30029SS.....	43	30075.....	40	30207LF.....	161	30275.....	34
300000.....	458	30030.....	43	30078.....	39	30207SS.....	36	30276.....	34
3000004.....	417	30031.....	43	30078LF.....	163	30208.....	31	30277.....	34
				30083.....	39	30209.....	31	30279.....	34

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
30394.....	32	30548.....	45	31127LF.....	170	320070.....	466	32017.....	15	32044.....	18
30395.....	32	30550.....	45	31137LF.....	170	320070.....	466	32017LF.....	162	32045.....	18
30396.....	32	30551.....	45	31154LF.....	170	320070.....	467	32017SS.....	27	32046.....	18
30397.....	32	30552.....	45	31155LF.....	170	320070.....	467	32018.....	15	32046B.....	19
30398.....	32	30553.....	45	31158LF.....	170	320075.....	463	32018LF.....	162	32046LF.....	162
30399.....	32	30560.....	45	31159LF.....	170	320075.....	466	32018SS.....	27	32047.....	18
30400.....	32	30561.....	45	31171LF.....	170	320075.....	466	32019.....	15	32047B.....	19
30401.....	25	30562.....	45	31188LF.....	170	320075.....	466	32019LF.....	162	32047LF.....	162
30402.....	32	30563.....	45	31189LF.....	170	320075.....	466	32019SS.....	27	32048.....	18
30403.....	32	30565.....	45	31190LF.....	170	320075.....	467	32020.....	15	32048B.....	19
30406.....	25	30566.....	45	31194LF.....	170	320075.....	467	32020LF.....	162	32048LF.....	162
30410.....	25	30567.....	45	31195LF.....	170	320075.....	467	32020SS.....	27	32049.....	17
30411.....	25	30568.....	45	31198LF.....	170	320076.....	464	32021.....	15	32050.....	17
30413.....	25	30570.....	45	31233LF.....	170	320076.....	466	32021LF.....	162	32050LF.....	162
30420.....	25	30571.....	45	31234LF.....	170	320076.....	466	32021SS.....	27	32051.....	17
30421.....	25	30572.....	45	31235LF.....	170	320076.....	466	32022.....	15	32051LF.....	162
30422.....	31	30573.....	45	31237LF.....	170	320076.....	466	32022LF.....	162	32052.....	17
30423.....	31	30600.....	48	31238LF.....	170	320076.....	467	32022SS.....	27	32052LF.....	162
30424.....	31	30609.....	48	31260LF.....	170	320076.....	467	32023.....	15	32053.....	17
30426.....	33	30620.....	48	320000.....	465	320076.....	467	32023LF.....	162	32053LF.....	162
30427.....	33	30626.....	47	320005.....	465	320077.....	464	32023SS.....	27	32054.....	17
30428.....	33	30627.....	47	320005.....	467	320077.....	466	32024.....	15	32054LF.....	162
30429.....	34	30629.....	47	320005.....	467	320078.....	464	32024LF.....	162	32055.....	17
30430.....	35	30630.....	48	32001.....	15	320078.....	466	32024SS.....	27	32055LF.....	162
30450.....	42	30631.....	46	320010.....	465	320078.....	467	32025.....	15	32056.....	17
30451.....	42	30637.....	48	320011.....	465	32007LF.....	162	32025LF.....	162	32056LF.....	162
30452.....	42	30638.....	48	32001LF.....	162	32008.....	15	32026.....	15	32057.....	17
30453.....	44	30640.....	48	32001SS.....	27	320080.....	464	32026LF.....	162	32057LF.....	162
30454.....	44	307030.....	464	32002.....	15	320080.....	466	32027.....	15	32058.....	17
30455.....	44	307030.....	466	320021.....	464	32008LF.....	162	32027LF.....	162	32058LF.....	162
30457.....	44	307030.....	467	320021.....	467	32008SS.....	27	32028.....	15	32059.....	17
30458.....	44	307031.....	464	320021.....	467	32009.....	15	32029.....	15	32059LF.....	162
30459.....	44	308070.....	433	320022.....	464	320095.....	464	32030.....	21	32060.....	17
30464.....	44	31022.....	339	320023.....	464	320095.....	466	32031.....	21	32060LF.....	162
30466.....	44	31023.....	339	32002LF.....	162	320095.....	466	32032.....	21	32061.....	17
30467.....	44	31030.....	339	32002SS.....	27	320095.....	466	32033.....	21	32061LF.....	162
30468.....	44	31031.....	339	32003.....	15	320095.....	466	32034.....	21	32062.....	17
30469.....	44	31032.....	339	320035.....	463	320095.....	467	32036.....	18	32062LF.....	162
30471.....	44	31033.....	339	320036.....	463	320095.....	467	32036B.....	19	32063.....	17
30472.....	44	31034.....	339	32003LF.....	162	320095.....	467	32036LF.....	162	32063LF.....	162
30480.....	35	31035.....	339	32003SS.....	27	32009LF.....	162	32038.....	18	32064.....	17
30482.....	35	31038.....	339	32004.....	15	32009SS.....	27	32038B.....	19	32064LF.....	162
30483.....	35	31039.....	339	32004LF.....	162	32010.....	15	32038LF.....	162	32065.....	17
30484.....	35	31040.....	339	32004SS.....	27	32010LF.....	162	32038SS.....	27	32065LF.....	162
30486.....	35	31041.....	339	32005.....	15	32010SS.....	27	32039.....	18	32066.....	21
30505.....	44	31042.....	339	320050.....	463	32011.....	15	32039B.....	19	32067.....	21
30506.....	44	31055.....	339	320050.....	466	32011LF.....	162	32039LF.....	162	32068.....	21
30507.....	44	31058.....	339	320050.....	466	32011SS.....	27	32039SS.....	27	32069.....	21
30508.....	44	31063.....	339	320050.....	466	32012.....	15	32040.....	18	32070.....	21
30510.....	44	31064.....	339	320050.....	466	320120.....	460	32040B.....	19	32071.....	21
30511.....	44	31066LF.....	170	320050.....	467	320121.....	460	32040LF.....	162	32072.....	21
30512.....	44	31067.....	339	320050.....	467	320122.....	460	32041.....	18	32073.....	21
30513.....	44	31068.....	339	320050.....	467	32012LF.....	162	320410.....	464	32074.....	21
30516.....	44	31068LF.....	170	320053.....	463	32012SS.....	27	320410.....	466	32075.....	21
30517.....	44	31069.....	339	320054.....	463	32013.....	15	320414.....	466	32075.....	21
30518.....	44	31079LF.....	170	320055.....	463	32013LF.....	162	32041B.....	19	32076.....	21
30526.....	46	31081LF.....	170	32005LF.....	162	32013SS.....	27	32041LF.....	162	32077.....	21
30527.....	46	31082LF.....	170	32005SS.....	27	32014.....	15	32041SS.....	27	32078.....	21
30530.....	46	31083LF.....	170	32006.....	15	32014LF.....	162	32042.....	18	32079.....	16
30540.....	45	31093.....	339	320061.....	9	32014SS.....	27	32042B.....	19	32080.....	16
30541.....	45	31095.....	339	320065.....	452	32015.....	15	32042LF.....	162	32081.....	21
30542.....	45	31096.....	339	32006LF.....	162	32015LF.....	162	32042SS.....	27	32082.....	21
30543.....	45	31097.....	339	32006SS.....	27	32015SS.....	27	32043.....	18	32083.....	21
30545.....	45	31105LF.....	170	32007.....	15	32016.....	15	32043B.....	19	32084.....	21
30546.....	45	31106LF.....	170	320070.....	463	32016LF.....	162	32043LF.....	162	32085.....	21
30547.....	45	31126LF.....	170	320070.....	466	32016SS.....	27	32043SS.....	27	32086.....	21
										32087.....	16

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
32088.....	16	32132.....	18	32326.....	22	32404.....	20	32504.....	436	32727.....	23
32089.....	16	32133.....	18	32327.....	22	32405.....	20	32506.....	436	32728.....	23
32090.....	16	32150.....	26	32328.....	22	32406.....	20	32507.....	436	32741.....	23
32091.....	16	32151.....	26	32329.....	16	32407.....	20	32508.....	436	32742.....	23
32091LF.....	162	32153.....	26	32330.....	18	32409.....	20	32510.....	436	32744.....	23
32091SS.....	27	32159.....	26	32331.....	16	32410.....	20	32517.....	436	32746.....	23
32092.....	16	32160.....	26	32332.....	16	32411.....	20	32521.....	436	32747.....	23
32092LF.....	162	32170.....	26	32334.....	22	32412.....	19	32526.....	436	32749.....	23
32093.....	16	32171.....	26	32335.....	22	32413.....	19	32533.....	436	32750.....	23
32093LF.....	162	32176.....	24	32336.....	22	32414.....	19	32535.....	436	32751.....	23
32093SS.....	27	32177.....	24	32336C.....	22	32415.....	19	32539.....	436	32752.....	23
32094.....	16	32178.....	24	32337.....	22	32416.....	19	32543.....	436	32753.....	23
32094LF.....	162	32179.....	24	32337C.....	22	32417.....	19	32545.....	436	32754.....	23
32094SS.....	27	32180.....	24	32338.....	22	32418.....	19	32549.....	436	32755.....	23
32095.....	16	32181.....	24	32338C.....	22	32419.....	19	32550.....	436	32756.....	23
32095LF.....	162	32182.....	24	32338SS.....	22	32420.....	19	32551.....	436	32758.....	23
32095SS.....	27	32183.....	24	32339.....	22	32425.....	19	32552.....	436	32759.....	23
32096.....	16	32184.....	24	32340.....	22	32429.....	19	32552SS.....	436	32760.....	23
32096.....	42	32185.....	24	32341.....	22	32433.....	19	32553.....	436	32761.....	23
32096LF.....	162	32186.....	24	32341C.....	22	32434.....	19	32554.....	436	32770.....	23
32096SS.....	27	32187.....	24	32342.....	22	32435.....	19	32555.....	436	32771.....	23
32097.....	16	32188.....	24	32345.....	20	32436.....	19	32556.....	436	32772.....	23
32097.....	42	32189.....	24	32346.....	20	32437.....	25	32557.....	436	32773.....	23
32097LF.....	162	32190.....	24	32349.....	16	32438.....	25	32557SS.....	436	32774.....	23
32098.....	16	32191.....	24	32350.....	19	32439.....	25	32558.....	436	32775.....	23
32098.....	42	32192.....	24	32351.....	16	32440.....	25	32559.....	436	32781.....	17
32098LF.....	162	32194.....	24	32352.....	19	32441.....	17	32559SS.....	436	32782.....	462
32098SS.....	27	32195.....	24	32353.....	19	32441LF.....	162	32561.....	436	32783.....	462
32099.....	16	32200.....	16	32354.....	18	32442.....	17	32561SS.....	436	32900.....	33
32099.....	42	32201.....	16	32355.....	16	32443.....	17	32563.....	436	32901.....	33
32100.....	22	32202.....	16	32356.....	16	32444.....	17	32564.....	436	32902.....	33
32100LF.....	162	32300.....	15	32357.....	16	32445.....	17	32564SS.....	436	32903.....	33
32101.....	22	32301.....	15	32359.....	21	32446.....	17	32565.....	436	32905.....	33
32101LF.....	162	32302.....	15	32360.....	16	32447.....	17	32566.....	436	32906.....	33
32102.....	22	32303.....	15	32361.....	19	32448.....	17	32566SS.....	436	32907.....	33
32103.....	22	32304.....	15	32362.....	21	32449.....	17	32567.....	436	32912.....	15
32104.....	22	32305.....	15	32363.....	19	32450.....	16	32568.....	436	32915.....	15
32105.....	22	32306.....	15	32364.....	21	32451.....	16	32568SS.....	436	32950.....	15
32105C.....	22	32306LF.....	162	32365.....	19	32452.....	16	32570.....	436	32951.....	15
32105LF.....	162	32307.....	15	32365LF.....	162	32453.....	16	32570SS.....	436	32952.....	15
32106.....	22	32308.....	18	32366.....	19	32454.....	16	32571.....	436	32953.....	15
32107.....	22	32309.....	18	32366LF.....	162	32455.....	16	32572.....	436	32954.....	15
32107C.....	22	32309B.....	19	32367.....	19	32456.....	16	32573.....	436	32954LF.....	162
32109.....	20	32309LF.....	162	32368.....	19	32457.....	16	32574.....	436	32956.....	15
32110.....	20	32310.....	18	32375.....	16	32458.....	16	32575.....	436	32957.....	15
32111.....	20	32310B.....	19	32376.....	16	32460.....	21	32575SS.....	436	32958.....	15
32112.....	20	32311.....	18	32377.....	24	32461.....	21	32576.....	436	32960.....	16
32113.....	20	32311B.....	19	32379.....	16	32462.....	21	32577.....	436	32961.....	16
32114.....	20	32311LF.....	162	32380.....	16	32463.....	21	32577SS.....	436	32962.....	21
32115.....	20	32311SS.....	27	32381.....	24	32470.....	17	32578.....	436	33000P.....	335
32116.....	20	32312.....	18	32382.....	24	32472.....	17	32579.....	436	33000W.....	336
32117.....	18	32313.....	18	32383.....	24	32473.....	17	32580.....	436	33002B.....	335
32118.....	18	32313LF.....	162	32384.....	24	32475.....	17	32584.....	436	33002W.....	336
32119.....	18	32314.....	18	32385.....	24	32476.....	17	32586.....	436	33003B.....	335
32120.....	18	32314B.....	19	32386.....	16	32500.....	436	32588.....	436	33003W.....	336
32121.....	18	32314SS.....	27	32387.....	24	325004.....	418	32588SS.....	436	33004B.....	335
32122.....	18	32315.....	18	32388.....	24	325005.....	418	32590.....	436	33004W.....	336
32123.....	18	32316.....	15	32389.....	21	325006.....	418	32591.....	436	33005B.....	335
32124.....	18	32317.....	17	32391.....	18	325008.....	418	32592.....	436	33005W.....	336
32125.....	18	32317LF.....	162	32392.....	21	32501.....	436	32596.....	436	33006B.....	335
32126.....	19	32318.....	17	32394.....	22	325010.....	418	32597.....	436	33006W.....	336
32126LF.....	162	32318LF.....	162	32397.....	22	325012.....	418	32608.....	20	33007B.....	335
32128.....	19	32319.....	18	32400.....	19	325016.....	418	32609.....	20	33007W.....	336
32129.....	18	32320.....	17	32401.....	20	32502.....	436	32610.....	20	33008B.....	335
32130.....	18	32321.....	17	32402.....	20	325020.....	418	32725.....	23	33008W.....	336
32131.....	18	32322.....	21	32403.....	20	32503.....	436	32726.....	23	33009B.....	335

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
33009W	336	33046W	336	33318W	336	33432W	338	34131	63	34595	28
33010W	336	33047B	336	33319W	336	33433B	338	34141	63	34597	28
33011W	336	33047W	336	33320W	336	33433W	338	34143	65	34600	29
33012B	335	33048P	336	33321W	336	33434B	338	34160	65	34601	29
33012P	335	33048W	336	33323P	335	33435B	338	34170	65	34610	29
33012W	336	33050W	336	33329W	336	33435W	338	34172	65	34611	29
33013B	335	33052W	337	33334P	336	33436B	338	34174	65	34612	29
33013P	335	33053B	337	33342W	337	33436W	338	34176	65	34613	29
33013W	336	33053W	337	33343P	337	33437B	338	34501	28	34621T	29
33014B	335	33058W	337	33343W	337	33437W	338	34502	28	34622T	29
33014P	335	33059W	337	33344P	337	33438B	338	34504	28	34625	28
33014W	336	33060W	337	33344W	337	33438W	338	34510	28	34626	28
33015B	335	33061W	337	33345W	337	33439W	338	34525	29	34633	29
33015P	335	33062P	337	33347W	337	33440P	338	34526	29	34633T	29
33015W	336	33063W	337	33348W	337	33440W	338	34529	29	34635T	29
33016B	335	33064W	337	33349W	336	33442W	337	34531	29	34638T	29
33016P	335	33066W	337	33351W	336	33448W	338	34532	28	34650T	29
33016W	336	33067W	337	33380W	336	33450W	338	34533	28	34652T	29
33017B	335	33068W	337	33381W	336	33451W	338	34533T	28	34658	29
33017P	335	33079W	337	33384W	336	33453W	338	34534	28	34661	29
33017W	336	33089W	337	33385B	336	33454W	338	34535	28	34710	28
33018B	335	33091B	337	33385P	336	33455W	338	34535T	28	34711	28
33018P	335	33091W	337	33385W	336	33456W	338	34536	28	34712	28
33018W	336	33092B	337	33386W	336	33458W	338	34537	28	34713	28
33019B	335	33092W	337	33390B	337	33460W	336	34538	28	34714	28
33019W	336	33093B	337	33390W	337	33461P	336	34539	28	34715	28
33020B	335	33093W	337	33391B	337	33461W	336	34540	28	34716	28
33020P	335	33094W	337	33391W	337	33462W	336	34540T	28	34716	28
33020W	336	33095B	337	33394B	337	33463P	336	34541T	28	34717	28
33021B	335	33095P	337	33394W	337	33463W	336	34543	28	34718	28
33021W	336	33095W	337	33395B	337	33464W	336	34543T	28	34720	28
33022B	335	33096B	337	33395W	337	33470W	337	34550	29	34721	28
33022P	335	33096P	337	33396B	337	33471W	337	34551	29	34722	28
33022W	336	33096W	337	33396W	337	33480W	337	34551T	29	34723	28
33023B	335	33097B	337	33397W	337	33481W	337	34552	29	34724	28
33023P	335	33097W	337	33398W	337	34001	63	34552T	29	34725	28
33023W	336	33098P	337	33399W	337	34011	63	34553T	29	34726	28
33024B	335	33098W	337	33402W	337	34016	63	34561	29	34727	28
33024P	335	33099P	337	33403W	337	34022	63	34562	29	34728	28
33024W	336	33099W	337	33406B	337	34031	63	34562T	29	350004	419
33025P	335	33300P	338	33406W	337	34041	63	34563	29	350004SS	420
33025W	336	33301P	338	33407B	337	34046	63	34563T	29	350005	419
33026B	335	33301W	338	33407W	337	34051	63	34564T	29	350005SS	420
33026W	336	33302P	338	33408B	337	34060	64	34565	29	350006	419
33027W	336	33303P	335	33408W	337	34061	64	34565T	29	350006SS	420
33028W	336	33303W	336	33409W	337	34062	64	34567	29	350008	419
33029W	336	33306W	336	33410B	337	34063	64	34567T	29	350008SS	420
33030W	336	33307W	336	33410W	337	34064	64	34568	29	350010	419
33032W	336	33308B	336	33415B	338	34065	64	34568T	29	350010SS	420
33033W	336	33309B	336	33415W	338	34072	64	34572	28	350012	419
33038B	336	33309W	336	33417W	338	34073	64	34572T	28	350012SS	420
33038W	336	33310W	336	33418B	338	34074	64	34574	28	350016	419
33039B	336	33311B	336	33420B	338	34079	65	34574T	28	350016SS	420
33039W	336	33311P	336	33420W	338	34080	64	34579	28	350020	419
33040W	336	33311W	336	33422B	338	34082	64	34580	28	350020SS	420
33041B	336	33312B	336	33422W	338	34084	64	34581	28	35130	62
33041W	336	33312W	336	33423B	338	34088	64	34583	28	35131	62
33042B	336	33313B	336	33426B	338	34111	65	34584	28	35132	62
33042W	336	33313P	336	33426W	338	34112	65	34585	28	35133	62
33043B	336	33313W	336	33429B	338	34113	65	34586	28	35134	62
33043W	336	33314B	336	33429P	338	34114	65	34587	28	35135	62
33044B	336	33314P	336	33429W	338	34120	65	34588	28	35136	62
33044W	336	33314W	336	33430B	338	34121	65	34589	28	35142	62
33045B	336	33315W	336	33430W	338	34122	65	34590	28	35186	62
33045W	336	33316P	336	33431W	338	34123	65	34591	28	35403LF	175
33046B	336	33316W	336	33432B	338	34130	63	34592	28	35403SS	175



## NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
35404LF	175	36200	144	38049	133	38129	135	38228	137	38864	24
35404SS	175	36205	144	38052	133	38132	135	38229	137	38866	24
35405LF	175	36210	144	38053	133	38133	135	38235	137	38868	24
35405SS	175	36212	144	38054	133	38134	135	38236	137	38873	25
35406LF	175	36214	144	38055	133	38136	135	38237	137	38874	25
35406SS	175	36216	144	38057	133	38137	135	38239	137	38910	494
35407LF	175	36220	144	38059	133	38138	135	38240	137	38915	494
35407SS	175	36300	145	38060	133	38139	135	38241	137	38920	494
35408LF	175	36301	145	38061	133	38140	135	38243	137	38923	494
35408SS	175	36304	145	38062	133	38141	135	38244	137	38926	494
35413LF	175	36305	145	38063	133	38142	135	38246	137	38927	494
35413SS	175	36306	145	38064	133	38143	135	38278	137	38950	493
35414LF	175	36307	145	38065	133	38144	135	38279	137	38950B2	493
35414SS	175	36308	145	38066	133	38146	135	38300	138	38951	493
35415LF	175	36309	145	38067	133	38148	135	38301	138	38951B1	493
35415SS	175	36310	145	38068	133	38149	135	38306	138	38951BA	493
35416LF	175	36311	145	38072	134	38150	135	38307	138	38952	493
35416SS	175	36340	145	38073	134	38151	135	38312	138	389522	493
35417LF	175	36350	145	38074	134	38152	135	38313	138	389523	493
35417SS	175	36360	145	38075	134	38152S	135	38318	139	38952BA	493
35418LF	175	36362	145	38076	134	38153	135	38319	139	38952G	493
35418SS	175	36370	145	38077	134	38154	135	38324	140	38952G1	493
35420LF	175	36371	145	38078	134	38154S	135	38325	140	38952GA	493
35420SS	175	36372	145	38078S	134	38155	135	38326	140	38952O	493
36110	141	36373	145	38079	134	38156	135	38327	140	38952OA	493
36110SS	141	36374	145	38080	134	38157	135	38328	140	38952R	493
36111	141	36375	145	38081	134	38158	135	38333	140	38952R1	493
36112	141	36376	145	38081S	134	38161	136	38334	140	38952RA	493
36113	141	36377	145	38082	134	38162	136	38335	140	38952U	493
36114	141	38000	132	38083	134	38163	136	38336	140	38952U1	493
36116	141	38001	132	38084	134	38164	136	38337	140	38952UA	493
36116SS	141	38002	132	38085	134	38165	136	38342	140	38952Y	493
36118	141	38003	132	38086	134	38170	136	38343	140	38952Y1	493
36120	141	38004	132	38087	134	38171	136	38344	140	38952YA	493
36120SS	141	38005	132	38088	134	38172	136	38345	140	38953	493
36121	141	38009	132	38090	134	38173	136	38346	140	38953B1	493
36130	141	38010	132	38091	134	38174	136	38351	139	38953BA	493
36130SS	141	38011	132	38092	134	38179	136	38352	139	38954	493
36132	142	38012	132	38093	134	38180	136	38357	139	38954B5	493
36140	142	38013	132	38094	134	38181	136	38358	139	38954BA	493
36140SS	142	38014	132	38095	134	38182	136	38363	139	3895BA	493
36141	142	38015	139	38101	134	38183	136	38364	139	38960	493
36142	142	38016	139	38101S	134	38188	136	38368	140	38960B5	493
36144	142	38018	132	38102	134	38189	136	38369	140	38960BA	493
36146	142	38019	132	38103	134	38190	136	38370	140	38960G	493
36146SS	142	38020	132	38104	134	38191	136	38371	140	38960G5	493
36148	142	38021	132	38104S	134	38196	136	38372	140	38960GA	493
36150	142	38022	132	38105	134	38204	137	38711	87	38960O	493
36150SS	142	38023	132	38106	134	38205	137	38715	87	38960O5	493
36152	142	38028	132	38107	134	38206	137	38718	87	38960OA	493
36160	143	38029	132	38108	134	38207	137	38732	87	38960R	493
36164	143	38030	132	38109	134	38208	137	38761	87	38960R5	493
36164SS	143	38035	132	38110	134	38209	137	38769	87	38960RA	493
36166	143	38036	132	38111	134	38210	137	38770	87	38960U	493
36166SS	143	38037	132	38113	134	38211	137	38800	24	38960U5	493
36168	143	38038	132	38114	134	38212	137	38802	24	38960UA	493
36170	143	38039	132	38115	134	38213	137	38806	24	38960Y	493
36172	143	38040	132	38116	134	38217	137	38808	24	38960Y5	493
36174	143	38041	132	38117	134	38218	137	38810	24	38960YA	493
36176	143	38042	132	38118	134	38221	137	38828	24	38965	493
36178	143	38043	132	38119	134	38222	137	38830	24	38965B5	493
36180	144	38044	133	38124	135	38223	137	38832	24	38965BA	493
36182	144	38045	133	38125	135	38224	137	38834	24	38965G	493
36184	144	38046	133	38126	135	38225	137	38836	24	38965G5	493
36186	144	38047	133	38127	135	38226	137	38860	24	38965O	493
36188	144	38048	132	38128	135	38227	137	38862	24	38965O5	493



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
38965OA.....	493	39520.....	478	39674.....	481	39833.....	477	40032.....	242	40107.....	244
38965U.....	493	39521.....	478	39675.....	481	39834.....	477	40033.....	242	40108.....	244
38965U5.....	493	39522.....	478	39676.....	481	39838.....	473	40034.....	242	40109.....	244
38965UA.....	493	39524.....	478	39677.....	481	39839.....	473	40035.....	242	40110.....	244
39318.....	139	39530.....	478	39684.....	484	39855.....	474	40036.....	242	40111.....	244
39319.....	139	39531.....	478	39687.....	484	39856.....	474	40040.....	243	40112.....	244
39357.....	139	39535.....	479	39688.....	484	39857.....	474	40041.....	243	40113.....	244
39358.....	139	39537.....	479	39689.....	484	39860.....	480	40042.....	243	40114.....	244
39400.....	473	39541.....	479	39690.....	484	39870.....	477	40043.....	243	40115.....	244
39402.....	473	39542.....	479	39712.....	490	39871.....	477	40044.....	243	40120.....	245
39404.....	473	39543.....	479	39713.....	490	39874.....	477	40045.....	243	40121.....	245
39406.....	473	39544.....	479	39736.....	485	39875.....	477	40046.....	243	40122.....	245
39409.....	474	39550.....	479	39737.....	485	39877.....	477	40047.....	243	40123.....	245
39410.....	474	39551.....	479	39738.....	485	39878.....	477	40048.....	243	40124.....	245
39411.....	474	39552.....	479	39739.....	485	39962.....	473	40049.....	243	40125.....	245
39411.....	475	39556.....	479	39740.....	485	40001.....	242	40050.....	243	40126.....	245
39412.....	474	39557.....	479	39741.....	485	400010.....	523	40051.....	243	40127.....	245
39413.....	474	39558.....	479	39742.....	486	400012.....	523	40052.....	243	40128.....	245
39414.....	474	39559.....	479	39743.....	486	400014.....	523	40053.....	243	40129.....	245
39415.....	474	39560.....	479	39744.....	486	400016.....	523	40054.....	243	40130.....	245
39416.....	474	39563.....	480	39745.....	486	40002.....	242	40055.....	243	40131.....	245
39418.....	474	39564.....	480	39748.....	486	400020.....	523	40056.....	243	40132.....	245
39419.....	474	39565.....	480	39749.....	486	400022.....	523	40060.....	243	40133.....	245
39425.....	474	39566.....	479	39752.....	486	400024.....	523	40061.....	243	40134.....	245
39426.....	474	39570.....	480	39753.....	486	40003.....	242	40062.....	243	40135.....	245
39436.....	476	39572.....		39754.....	486	400032.....	523	40063.....	243	40136.....	245
39437.....	476	480.....		39757.....	487	40004.....	242	40064.....	243	40140.....	245
39438.....	476	39573.....		39758.....	487	400044.....	523	40065.....	243	40141.....	245
39442.....	476	480.....		39764.....	488	40005.....	242	40066.....	243	40142.....	245
39443.....	476	39574.....		39765.....	488	40006.....	242	40067.....	243	40143.....	245
39444.....	476	480.....		39766.....	488	400066.....	523	40068.....	243	40144.....	245
39446.....	476	39575.....		39768.....	488	40007.....	242	40069.....	243	40145.....	245
39447.....	476	480.....		39769.....	488	40008.....	242	40070.....	243	40146.....	245
39448.....	476	39592.....	483	39772.....	487	400088.....	523	40071.....	243	40147.....	245
39451.....	476	39595.....	147	39773.....	487	40009.....	242	40072.....	243	40148.....	245
39452.....	476	39595.....	483	39774.....	487	40010.....	242	40073.....	243	40149.....	245
39453.....	476	39596.....	147	39775.....	487	40011.....	242	40074.....	243	40150.....	245
39454.....	476	39596.....	483	39778.....	488	400110.....	523	40075.....	243	40151.....	245
39457.....	476	39597.....	147	39779.....	488	400112.....	523	40076.....	243	40152.....	245
39459.....	476	39597.....	483	39782.....	488	400116.....	523	40080.....	244	40153.....	245
39460.....	476	39600.....	147	39783.....	488	40012.....	242	40081.....	244	40154.....	245
39461.....	476	39600.....	483	39786.....	487	400120.....	523	40082.....	244	40155.....	245
39462.....	476	39604.....	483	39787.....	487	400122.....	523	40083.....	244	40156.....	245
39463.....	475	39605.....	483	39788.....	487	400124.....	523	40084.....	244	40160.....	246
39464.....	475	39606.....	483	39789.....	487	40013.....	242	40085.....	244	40161.....	246
39465.....	491	39610.....	483	39792.....	489	400132.....	523	40086.....	244	40162.....	246
39466.....	476	39611.....	483	39793.....	489	40014.....	242	40087.....	244	40163.....	246
39467.....	476	39613.....	483	39794.....	489	400144.....	523	40088.....	244	40164.....	246
39468.....	476	39614.....	483	39795.....	489	40015.....	242	40089.....	244	40165.....	246
39469.....	475	39615.....	483	39800.....	489	400166.....	523	40090.....	244	40166.....	246
39470.....	476	39616.....	484	39801.....	489	40017.....	242	40091.....	244	40167.....	246
39471.....	475	39654.....	481	39802.....	489	40018.....	242	40092.....	244	40168.....	246
39472.....	475	39655.....	482	39803.....	489	400188.....	523	40093.....	244	40169.....	246
39473.....	475	39656.....	482	39805.....	489	40019.....	242	40094.....	244	40170.....	246
39474.....	476	39657.....	482	39807.....	488	40020.....	242	40095.....	244	40171.....	246
39475.....	476	39658.....	482	39809.....	488	40021.....	242	40096.....	244	40172.....	246
39477.....	475	39659.....	482	39814.....	489	40022.....	242	40097.....	244	40173.....	246
39506.....	477	39660.....	482	39818.....	487	40023.....	242	40098.....	244	40174.....	246
39507.....	477	39661.....	482	39819.....	487	40024.....	242	40099.....	244	40175.....	246
39508.....	477	39662.....	482	39820.....	487	40025.....	242	40100.....	244	40176.....	246
39509.....	478	39663.....	482	39825.....	473	40026.....	242	40101.....	244	40178.....	246
39510.....	478	39665.....	482	39828.....	477	40027.....	242	40102.....	244	40179.....	246
39511.....	477	39667.....	482	39829.....	477	40028.....	242	40103.....	244	40180.....	246
39512.....	477	39669.....	482	39830.....	477	40029.....	242	40104.....	244	40181.....	246
39515.....	478	39672.....	481	39831.....	477	40030.....	242	40105.....	244	40182.....	246
39516.....	478	39673.....	481	39832.....	477	40031.....	242	40106.....	244	40183.....	246

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
40184.....	246	43107.....	265	43607.....	266	44134LF.....	250	44184LF.....	251	44260LF.....	252
40185.....	246	43108.....	265	43608.....	266	44135DLF.....	261	44185.....	251	44261DLF.....	262
40186.....	246	43109.....	265	43609.....	266	44135LF.....	250	44185DLF.....	261	44261LF.....	252
40187.....	246	43110.....	265	43610.....	266	44136DLF.....	261	44185LF.....	251	44268LF.....	253
40200.....	247	43165.....	265	44.270DLF.....	262	44136LF.....	250	44186.....	251	44270LF.....	253
40201.....	247	43167.....	265	44100.....	250	44137.....	250	44186DLF.....	261	44271DLF.....	262
40202.....	247	43183.....	265	44100DLF.....	261	44137DLF.....	261	44186LF.....	251	44273DLF.....	262
40203.....	247	43184.....	265	44101.....	250	44137LF.....	250	44187.....	251	44273LF.....	253
40204.....	247	43185.....	265	44101DLF.....	261	44138DLF.....	261	44187DLF.....	261	44276DLF.....	262
40205.....	247	43186.....	265	44102.....	250	44138LF.....	250	44187LF.....	251	44276LF.....	253
40206.....	247	43187.....	265	44102DLF.....	261	44140.....	250	44188.....	251	44279LF.....	253
40207.....	247	43188.....	265	44103.....	250	44140DLF.....	261	44188DLF.....	261	44280DLF.....	262
40209.....	247	43189.....	265	44103DLF.....	261	44140LF.....	250	44188LF.....	251	44280LF.....	253
40213.....	247	43190.....	265	44104.....	250	44141DLF.....	261	44189.....	251	44281DLF.....	262
40220.....	247	43200L.....	190	44104DLF.....	261	44141LF.....	250	44189DLF.....	261	44282DLF.....	262
40221.....	247	43200T.....	190	44105.....	250	44142DLF.....	261	44189LF.....	251	44282LF.....	253
40222.....	247	43204L.....	190	44105DLF.....	261	44142LF.....	250	44190.....	251	44283DLF.....	262
40223.....	247	43206L.....	190	44106.....	250	44146LF.....	250	44190DLF.....	261	44283LF.....	253
40224.....	247	43251.....	266	44106DLF.....	261	44150LF.....	250	44190LF.....	251	44286DLF.....	262
40225.....	247	43252.....	266	44107.....	250	44160.....	251	44191LF.....	251	44286LF.....	253
40226.....	247	43253.....	266	44107DLF.....	261	44160DLF.....	261	44200.....	251	44287DLF.....	262
40234.....	247	43254.....	266	44108.....	250	44160LF.....	251	44201.....	251	44287LF.....	253
40254.....	247	43255.....	266	44108DLF.....	261	44161.....	251	44201DLF.....	262	44288DLF.....	262
40256.....	247	43256.....	266	44109.....	250	44161DLF.....	261	44201LF.....	251	44288LF.....	253
40259.....	247	43257.....	266	44109DLF.....	261	44161LF.....	251	44202.....	251	44288LF.....	253
40260.....	247	43258.....	266	44110.....	250	44162.....	251	44202DLF.....	262	44289DLF.....	262
40261.....	247	43259.....	266	44110DLF.....	261	44162DLF.....	261	44202LF.....	251	44290LF.....	253
41060.....	248	43265LF.....	170	44112.....	250	44162LF.....	251	44203.....	251	44291DLF.....	262
41061.....	248	43266LF.....	170	44112DLF.....	261	44163.....	251	44203DLF.....	262	44291LF.....	253
41062.....	248	43276.....	266	44120.....	250	44163DLF.....	261	44203LF.....	251	44292LF.....	253
41063.....	248	43291.....	266	44120DLF.....	261	44163LF.....	251	44204.....	251	44293LF.....	253
41064.....	248	43298.....	266	44120LF.....	250	44164.....	251	44204DLF.....	262	44294DLF.....	262
41065.....	248	43393.....	266	44121DLF.....	261	44164DLF.....	261	44204LF.....	251	44295DLF.....	262
41066.....	248	43394.....	266	44121LF.....	250	44164LF.....	251	44205.....	251	44296DLF.....	262
41067.....	248	43395.....	266	44122.....	250	44165.....	251	44205DLF.....	262	44296LF.....	253
41068.....	248	43396.....	266	44122DLF.....	261	44165DLF.....	261	44205LF.....	251	44297DLF.....	262
41069.....	248	43397.....	266	44122LF.....	250	44165LF.....	251	44206.....	251	44298DLF.....	262
41070.....	248	43398.....	266	44123.....	250	44166.....	251	44206DLF.....	262	44298LF.....	253
41074.....	248	43411.....	266	44123DLF.....	261	44166DLF.....	261	44206LF.....	251	44300DLF.....	262
41080.....	248	43412.....	266	44123LF.....	250	44166LF.....	251	44207.....	251	44301LF.....	253
41081.....	248	43413.....	266	44124.....	250	44167.....	251	44207DLF.....	262	44302DLF.....	262
41082.....	248	43414.....	266	44124DLF.....	261	44167DLF.....	261	44207LF.....	251	44303DLF.....	262
41083.....	248	43415.....	266	44124LF.....	250	44167LF.....	251	44208.....	251	44303LF.....	253
41084.....	248	43416.....	266	44125.....	250	44168.....	251	44208DLF.....	262	44306DLF.....	262
41085.....	248	43417.....	266	44125DLF.....	261	44168DLF.....	261	44208LF.....	251	44306LF.....	253
41086.....	248	43418.....	266	44125LF.....	250	44168LF.....	251	44250DLF.....	262	44310DLF.....	262
41087.....	248	43419.....	266	44126DLF.....	261	44169.....	251	44250LF.....	252	44314LF.....	253
41088.....	248	43438.....	266	44126LF.....	250	44169DLF.....	261	44251DLF.....	262	44315LF.....	253
41089.....	248	43441.....	266	44127.....	250	44169LF.....	251	44251LF.....	252	44316DLF.....	262
41090.....	248	43442.....	266	44127DLF.....	261	44170.....	251	44252DLF.....	262	44316LF.....	253
41100.....	248	43446.....	266	44127LF.....	250	44170DLF.....	261	44252LF.....	252	44318DLF.....	262
41101.....	248	43449.....	266	44128DLF.....	261	44170LF.....	251	44253DLF.....	262	44318LF.....	253
41102.....	248	43450.....	266	44128LF.....	250	44180.....	251	44253LF.....	252	44322LF.....	253
41103.....	248	43454.....	266	44129DLF.....	261	44180DLF.....	261	44254DLF.....	262	44327LF.....	253
41104.....	248	43473.....	266	44129LF.....	250	44180LF.....	251	44254LF.....	252	44328DLF.....	262
41105.....	248	43474.....	266	44130DLF.....	261	44181.....	251	44255DLF.....	262	44328LF.....	253
41106.....	248	43475.....	266	44130LF.....	250	44181DLF.....	261	44255LF.....	252	44330DLF.....	262
41107.....	248	43476.....	266	44131.....	250	44181LF.....	251	44256DLF.....	262	44330LF.....	253
41108.....	248	43477.....	266	44131DLF.....	261	44182.....	251	44256LF.....	252	44334DLF.....	262
41109.....	248	43478.....	266	44131LF.....	250	44182DLF.....	261	44257DLF.....	262	44334LF.....	253
43101.....	265	43601.....	266	44132DLF.....	261	44182LF.....	251	44257LF.....	252	44336LF.....	253
43102.....	265	43602.....	266	44132LF.....	250	44183.....	251	44258DLF.....	262	44344LF.....	253
43103.....	265	43603.....	266	44133DLF.....	261	44183DLF.....	261	44258LF.....	252	44350DLF.....	262
43104.....	265	43604.....	266	44133LF.....	250	44183LF.....	251	44259DLF.....	262	44351LF.....	253
43105.....	265	43605.....	266	44134.....	250	44184.....	251	44259LF.....	252	44364DLF.....	263
43106.....	265	43606.....	266	44134DLF.....	261	44184DLF.....	261	44260DLF.....	262	44391.....	252

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
44391DLF.....	262	44417.....	254	44449DLF.....	263	44502LF.....	256	44529.....	256	44632LF.....	257
44391LF.....	252	44417DLF.....	263	44449LF.....	254	44503.....	256	44529DLF.....	264	44633.....	257
44392.....	252	44417LF.....	254	44450.....	254	44503LF.....	256	44529LF.....	256	44633DLF.....	264
44392DLF.....	262	44418.....	254	44450DLF.....	263	44504.....	256	44530.....	256	44633LF.....	257
44392LF.....	252	44418DLF.....	263	44450LF.....	254	44504LF.....	256	44530DLF.....	264	44634.....	257
44393.....	252	44418LF.....	254	44451.....	254	44505.....	256	44530LF.....	256	44634DLF.....	264
44393DLF.....	262	44419.....	254	44451DLF.....	263	44505LF.....	256	44531.....	256	44634LF.....	257
44393LF.....	252	44419DLF.....	263	44451LF.....	254	44506.....	256	44531DLF.....	264	44635.....	257
44394.....	252	44419LF.....	254	44452.....	254	44506LF.....	256	44531LF.....	256	44635DLF.....	264
44394DLF.....	262	44420.....	254	44452DLF.....	263	44507.....	256	44532.....	256	44635LF.....	257
44394LF.....	252	44420DLF.....	263	44452LF.....	254	44507LF.....	256	44532DLF.....	264	44636.....	257
44395.....	252	44420LF.....	254	44453.....	254	44508.....	256	44532LF.....	256	44636DLF.....	264
44395DLF.....	262	44421LF.....	254	44453DLF.....	263	44508LF.....	256	44533LF.....	256	44636LF.....	257
44395LF.....	252	44430.....	254	44453LF.....	254	44509.....	256	44534.....	256	44637.....	257
44396.....	252	44430DLF.....	263	44454.....	254	44509LF.....	256	44534DLF.....	264	44637DLF.....	264
44396DLF.....	262	44430LF.....	254	44454DLF.....	263	44510.....	256	44534LF.....	256	44637LF.....	257
44396LF.....	252	44431.....	254	44454LF.....	254	44510DLF.....	264	44535.....	256	44638.....	257
44397.....	252	444313.....	366	44456.....	254	44510LF.....	256	44535DLF.....	264	44638DLF.....	264
44397DLF.....	262	444318.....	366	44456DLF.....	263	44511.....	256	44535LF.....	256	44638LF.....	257
44397LF.....	252	44431DLF.....	263	44458.....	254	44511DLF.....	264	44537.....	256	44639.....	257
44398.....	252	44431LF.....	254	44458DLF.....	263	44511LF.....	256	44537LF.....	256	44639DLF.....	264
44398DLF.....	262	44432.....	254	44461.....	254	44512.....	256	44538.....	256	44639LF.....	257
44398LF.....	252	444320.....	366	44461DLF.....	263	44512DLF.....	264	44538DLF.....	264	44640.....	257
444000.....	366	44432DLF.....	263	44462.....	254	44512LF.....	256	44538LF.....	256	44640DLF.....	264
444001.....	366	44432LF.....	254	44462DLF.....	263	44513.....	256	44539.....	256	44640LF.....	257
444002.....	366	44433.....	254	44462LF.....	254	44513DLF.....	264	44539DLF.....	264	44641.....	257
444005.....	366	44433DLF.....	263	44463.....	254	44513LF.....	256	44539LF.....	256	44641DLF.....	264
444006.....	366	44434.....	254	44463DLF.....	263	44514.....	256	44541.....	256	44641LF.....	257
444007.....	366	44434DLF.....	263	44470.....	255	44514DLF.....	264	44541DLF.....	264	44650.....	257
444008.....	366	44434LF.....	254	44470DLF.....	264	44514LF.....	256	44541LF.....	256	44650LF.....	257
444011.....	366	44435.....	254	44470LF.....	255	44515.....	256	44542LF.....	256	44651.....	257
444020.....	366	44435DLF.....	263	44471.....	255	44515DLF.....	264	44543.....	256	44651LF.....	257
444021.....	366	44435LF.....	254	44471DLF.....	264	44515LF.....	256	44543LF.....	256	44652.....	257
444023.....	366	44436.....	254	44471LF.....	255	44516.....	256	44557.....	256	44652LF.....	257
444040.....	366	44436DLF.....	263	44472.....	255	44516DLF.....	264	44600.....	255	44653.....	257
444042.....	366	44436LF.....	254	44472DLF.....	264	44516LF.....	256	44600LF.....	255	44653DLF.....	265
444045.....	366	44437.....	254	44472LF.....	255	44517.....	256	44601.....	255	44653LF.....	257
444048.....	366	44437DLF.....	263	44473.....	255	44517DLF.....	264	44601DLF.....	264	44654.....	257
444049.....	366	44437LF.....	254	44473DLF.....	264	44517LF.....	256	44601LF.....	255	44654DLF.....	265
444060.....	366	44438.....	254	44473LF.....	255	44518.....	256	44602.....	255	44654LF.....	257
444062.....	366	44438DLF.....	263	44474.....	255	44518DLF.....	264	44602DLF.....	264	44655.....	257
444095.....	366	44438LF.....	254	44474DLF.....	264	44518LF.....	256	44602LF.....	255	44655DLF.....	265
44410.....	254	44440.....	254	44474LF.....	255	44519.....	256	44603.....	255	44655LF.....	257
44410DLF.....	263	44440DLF.....	263	44475.....	255	44519DLF.....	264	44603DLF.....	264	44656.....	257
44410LF.....	254	44441.....	254	44475DLF.....	264	44519LF.....	256	44603LF.....	255	44656DLF.....	265
44411.....	254	44441DLF.....	263	44475LF.....	255	44520.....	256	44604.....	255	44656LF.....	257
444111.....	366	44441LF.....	254	44476.....	255	44520DLF.....	264	44604DLF.....	264	44657.....	257
444112.....	366	44442.....	254	44476DLF.....	264	44520LF.....	256	44604LF.....	255	44657DLF.....	265
444113.....	366	44442DLF.....	263	44476LF.....	255	44521.....	256	44605.....	255	44657LF.....	257
44411DLF.....	263	44442LF.....	254	44477.....	255	44521DLF.....	264	44605DLF.....	264	44658.....	257
44411LF.....	254	44444.....	254	44477DLF.....	264	44521LF.....	256	44605LF.....	255	44658DLF.....	265
44412.....	254	44444DLF.....	263	44477LF.....	255	44522.....	256	44606.....	255	44658LF.....	257
44412DLF.....	263	44444LF.....	254	44478.....	255	44522DLF.....	264	44606DLF.....	264	44659.....	257
44412LF.....	254	44445.....	254	44478DLF.....	264	44522LF.....	256	44606LF.....	255	44659DLF.....	265
44413.....	254	44445DLF.....	263	44478LF.....	255	44523.....	256	44607.....	255	44659LF.....	257
44413DLF.....	263	44445LF.....	254	44479.....	255	44523DLF.....	264	44607DLF.....	264	44660.....	257
44413LF.....	254	44446.....	254	44479LF.....	255	44523LF.....	256	44607LF.....	255	44660DLF.....	265
44414.....	254	44446DLF.....	263	44480.....	255	44524.....	256	44608.....	255	44660LF.....	257
44414DLF.....	263	44446LF.....	254	44480DLF.....	264	44524DLF.....	264	44608LF.....	255	44662.....	257
44414LF.....	254	44447.....	254	44480LF.....	255	44524LF.....	256	44609.....	255	44662DLF.....	265
44415.....	254	44447DLF.....	263	44481LF.....	255	44527.....	256	44609LF.....	255	44662LF.....	257
44415DLF.....	263	44447LF.....	254	44500.....	256	44527DLF.....	264	44610.....	255	44670.....	257
44415LF.....	254	44448.....	254	44500LF.....	256	44527LF.....	256	44610LF.....	255	44670LF.....	257
44416.....	254	44448DLF.....	263	44501.....	256	44528.....	256	44611LF.....	255	44671.....	257
44416DLF.....	263	44448LF.....	254	44501LF.....	256	44528DLF.....	264	44630LF.....	257	44671LF.....	257
44416LF.....	254	44449.....	254	44502.....	256	44528LF.....	256	44631LF.....	257	44672.....	257

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
44672DLF	265	44829LF	258	45439	260	46061L	151	46256	153	46561V	156
44672LF	257	44830LF	258	45470	260	46061LF	171	46257	153	46562	156
44673	257	44831LF	258	45471	260	46064	147	46260	153	46562V	156
44673DLF	265	44839DLF	261	45472	260	46066	147	46270	225	46563	156
44673LF	257	44840DLF	261	45473	260	46067	147	46277	225	46563V	156
44674	257	44840LF	267	45474	260	46069	147	46400	152	46564	156
44674DLF	265	44840LF	329	45475	260	46070	147	46400M	152	46564V	156
44674LF	257	44841LF	267	45600	260	46071	147	46401	152	46565	156
44675	257	44841LF	329	45601	260	46072	147	46401M	152	46566	156
44675DLF	265	44842LF	267	45602	260	46073	147	46402	152	46567	156
44675LF	257	44842LF	329	45603	260	46074	148	46402M	152	46568	156
44676	257	44843LF	267	45604	260	46075	148	46406M	152	46569	156
44676DLF	265	44843LF	329	45605	260	46076	148	46411	152	46570	156
44676LF	257	44844LF	267	45606	260	46077	148	46411M	152	46571	156
44677	257	44844LF	329	45652	260	46078	148	46429M	152	46572	156
44677DLF	265	44845LF	267	45653	260	46079	148	46430M	152	46573	156
44677LF	257	44845LF	329	45654	260	46080	148	46440	155	46575	156
44678	257	44963DLF	263	45655	260	46081	148	46443	155	46576	156
44678DLF	265	44964DLF	263	45657	260	46082	148	46450	152	46577	156
44678LF	257	44965DLF	263	46002	150	46083	148	46451	152	46578	156
44679LF	257	45100	259	46002LF	171	46084	148	46455	152	46579	156
44680LF	257	45101	259	46003	150	46085	148	46456	152	46600	465
44681LF	257	45102	259	46003LF	171	46086	148	46457	152	46600	466
44700LF	255	45102LF	259	46005LF	171	46087	148	46465	152	46600	467
44701LF	255	45103	259	46011	150	46088	148	46466	152	46605	465
44702LF	255	45103LF	259	46011LF	171	46089	148	46467	152	46605	466
44703LF	255	45104	259	46011X	150	46089A	148	46475	152	46607	465
44704LF	255	45104LF	259	46012	150	46090ALF	171	46476	152	46615	464
44705LF	255	45105	259	46012LF	171	46090HLF	171	46485	152	46620	462
44706LF	255	45105LF	259	46013	150	46091LF	171	46485	152	46621	462
44707LF	255	45124	259	46013LF	171	46092LF	171	46500	156	46622	462
44708LF	255	45127	259	46015LF	171	46093LF	171	46505	156	46630	462
44720	258	45160	259	46016LF	171	46099LF	171	46510	156	46631	462
44721	258	45161	259	46020	150	46130	149	46511	156	46650	107
44722	258	45162	259	46021	150	46131	149	46512	156	46651	107
44723	258	45163	259	46021LF	171	46132	149	46513	156	46652	107
44724	258	45164	259	46022	150	46133	149	46514	156	46653	107
44725	258	45165	259	46022LF	171	46134	149	46515	156	46660	107
44726	258	45180	260	46023	150	46140	149	46516	156	46661	107
44727	258	45181	260	46023LF	171	46141	149	46517	156	46662	107
44728	258	45182	260	46028	150	46142	149	46518	156	46663	107
44729	258	45183	260	46029	150	46143	149	46519	156	46670	107
44730M	258	45184	260	46029LF	171	46151	149	46520	154	46671	107
44740	258	45185	260	46031	150	46152	149	46520A	154	46672	107
44742	258	45200	259	46036	151	46152T	149	46521	154	46680	107
44750	258	45201	259	46038	151	46153	149	46521A	154	46681	107
44753	258	45202	259	46039	151	46160	149	46522	154	46682	107
44780LF	258	45203	259	46040	151	46161	149	46523	154	466900	107
44781LF	258	45204	259	46045	151	46161T	149	46523A	154	466901	107
44782LF	258	45250	260	46045LF	171	46162	149	46524	154	466902	107
44783LF	258	45251	260	46046	151	46165	149	46524A	154	46830	155
44784LF	258	45252	260	46046LF	171	46166	149	46526	154	46832	155
44785LF	258	45253	260	46048	151	46166T	149	46529	154	46833	155
44790LF	258	45254	260	46048	462	46167	149	46530	154	46834	155
44791LF	258	45255	260	46048S	462	46174LF	171	46530A	154	46875	155
44792LF	258	45393	259	46050	151	46175LF	171	46531	154	46878	155
44793LF	258	45394	259	46051	151	46177LF	171	46531A	154	46900	155
44794LF	258	45410	260	46051LF	171	46237	154	46532	154	46903	155
44795LF	258	45411	260	46055	151	46241	153	46532A	154	46903I	198
44796LF	258	45412	260	46055LF	171	46243	153	46533	154	46903ISB	198
44797LF	258	45413	260	46056	151	46244	153	46533A	154	46903SS	214
44798LF	258	45414	260	46056LF	171	46247	153	46539	156	46904I	198
44799LF	258	45415	260	46056P	151	46248	153	46540	12	46904SS	214
44800LF	258	45432	260	46060	151	46250	153	46541	12	46905SS	214
44827LF	258	45435	260	46060LF	171	46251	153	46560	156	46910	155
44828LF	258	45438	260	46061	151	46252	153	46560V	156	46912	155
						46255	153	46561	156	46912SS	214

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
46913SS	214	48004	271	48090	273	48205	275	49083	273	49236	275
46914SS	214	48005	271	48091	273	48207	275	49084	273	49240	275
46920	155	48006	271	48092	273	48209	275	49085	273	50001	62
46921	155	48007	271	48094	273	48213	275	49086	273	500012	421
46922	155	48008	271	48096	273	48220	275	49087	273	50001212	512
46922A	155	48009	271	48100	273	48227	275	49088	273	5000128	512
46922I	198	48010	271	48101	273	49001	271	49089	273	500016	512
46922SS	214	48011	271	48102	273	49002	271	49090	273	50001612	512
46923	155	48015	271	48103	273	49003	271	49092	273	5000168	512
46923I	198	48020	271	48104	273	49004	271	49094	273	50002	512
46923SS	214	48021	271	48105	273	49005	271	49100	273	500020	421
46924	155	48022	271	48106	273	49006	271	49101	273	50002020	512
46924I	198	48023	271	48107	273	49007	271	49102	273	500024	512
46924SS	214	48024	271	48108	273	49008	271	49103	273	500028	421
46925	155	48025	271	48109	273	49009	271	49104	273	500032	512
46930	200	48026	271	48110	273	49010	271	49105	273	500036	421
46930L	200	48027	271	48111	273	49011	271	49106	273	50004	467
46930S	200	48028	271	48113	273	49017	271	49107	273	50004	467
46930SS	213	48029	271	48115	273	49020	271	49108	273	50004	512
46930T	200	48030	271	48120	274	49021	271	49109	273	500042	512
46931	200	48031	271	48121	274	49022	271	49110	273	500048	421
46931L	200	48032	271	48122	274	49023	271	49111	273	500056	421
46931S	200	48034	271	48123	274	49024	271	49113	273	500064	512
46931SS	213	48036	271	48124	274	49025	271	49120	274	500066	512
46931T	200	48040	272	48125	274	49026	271	49121	274	500072	421
46932	200	48041	272	48126	274	49027	271	49122	274	50008	512
46932L	200	48042	272	48127	274	49028	271	49123	274	500084	512
46932S	200	48043	272	48128	274	49029	271	49124	274	500086	512
46932SS	213	48044	272	48129	274	49030	271	49125	274	500088	421
46932T	200	48045	272	48131	274	49031	271	49126	274	500104	421
46933	200	48046	272	48135	274	49032	271	49127	274	50011	62
46933L	200	48047	272	48140	274	49033	271	49128	274	500128	421
46933S	200	48048	272	48141	274	49034	271	49129	274	500152	421
46933SS	213	48049	272	48142	274	49035	271	49140	274	50016	38
46933T	200	48050	272	48143	274	49036	271	49141	274	500188	421
46934	199	48052	272	48144	274	49037	271	49142	274	500216	421
46934L	199	48053	272	48145	274	49038	271	49143	274	500248	421
46934LS	199	48054	272	48146	274	49040	272	49144	274	500280	421
46934LT	199	48056	272	48147	274	49041	272	49145	274	540402	124
46934SS	213	48060	272	48148	274	49042	272	49146	274	540402S	124
46935	199	48061	272	48149	274	49043	272	49147	274	540402SC	129
46935L	199	48062	272	48151	274	49044	272	49148	274	540404	124
46935LS	199	48063	272	48152	274	49045	272	49149	274	540404S	124
46935LT	199	48064	272	48153	274	49046	272	49151	274	540404SC	129
46935SS	213	48065	272	48155	274	49047	272	49153	274	540412	512
46936	199	48066	272	48160	275	49048	272	49160	275	5404126	512
46936L	199	48067	272	48161	275	49049	272	49161	275	5404128	512
46936LS	199	48068	272	48162	275	49050	272	49162	275	540416	512
46936LT	199	48069	272	48163	275	49052	272	49163	275	54041612	512
46936SS	213	48070	272	48164	275	49054	272	49164	275	5404166	512
46937	199	48071	272	48165	275	49060	272	49165	275	5404168	512
46937L	199	48072	272	48166	275	49061	272	49166	275	54042	512
46937LS	199	48073	272	48167	275	49062	272	49167	275	540420	512
46937SS	213	48074	272	48168	275	49063	272	49168	275	54042012	512
46951	155	48075	272	48169	275	49064	272	49169	275	54042016	512
46956	155	48076	272	48170	275	49065	272	49170	275	540424	512
46980	155	48080	273	48171	275	49066	272	49200	275	54042412	512
46981	155	48081	273	48172	275	49067	272	49201	275	54042416	512
46986	154	48082	273	48174	275	49068	272	49203	275	54042420	512
46987	154	48083	273	48180	275	49069	272	49205	275	54043224	512
46988	154	48084	273	48181	275	49070	272	49207	275	54044	467
46989	154	48085	273	48187	275	49072	272	49209	275	54044	467
47042	155	48086	273	48193	275	49074	272	49213	275	54044	468
48001	271	48087	273	48200	275	49080	273	49220	275	54044	468
48002	271	48088	273	48201	275	49081	273	49223	275	54044	512
48003	271	48089	273	48203	275	49082	273	49234	275	540442	512



## NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
54046.....	512	5406C6.....	514	55004.....	514	55061.....	331	55145.....	332	55243.....	331
540462.....	512	5406C8.....	514	550042.....	514	55062.....	331	55146.....	332	55244.....	331
540464.....	512	5406FLP12.....	513	550048.....	421	55063.....	331	55147.....	332	55245.....	331
54048.....	512	5406FLP2.....	513	550056.....	421	55064.....	331	55148.....	332	55246.....	331
540484.....	512	5406FLP4.....	513	55006.....	514	55065.....	331	55149.....	332	55247.....	331
540486.....	512	5406FLP6.....	513	550064.....	514	55066.....	331	55150.....	332	56001.....	285
54051212.....	512	5406FLP8.....	513	550072.....	421	55067.....	331	55151.....	332	560012.....	516
54051216.....	512	5406HHP12.....	513	55008.....	514	55068.....	331	55152.....	332	560016.....	516
54051220.....	512	5406HHP16.....	513	550084.....	514	55069.....	331	55153.....	332	56002.....	285
54051616.....	512	5406HHP2.....	513	550086.....	514	55070.....	331	55154.....	332	560022.....	516
54051620.....	512	5406HHP20.....	513	550088.....	421	55072.....	331	55155.....	332	56003.....	285
54052020.....	512	5406HHP24.....	513	550104.....	421	55074.....	331	55160.....	332	56004.....	285
54052024.....	512	5406HHP4.....	513	55011212.....	515	55075.....	331	55161.....	332	560044.....	516
540522.....	512	5406HHP4.....	513	55011616.....	515	55076.....	331	55162.....	332	56005.....	285
540524.....	512	5406HHP8.....	513	550122.....	515	55080.....	331	55163.....	332	56006.....	285
54052424.....	512	5406P12.....	513	550128.....	421	55081.....	331	55164.....	332	560066.....	516
540542.....	512	5406P16.....	513	550144.....	515	55082.....	331	55165.....	332	56007.....	285
540544.....	512	5406P2.....	513	550152.....	421	55083.....	331	55166.....	332	56008.....	285
540548.....	512	5406P20.....	513	550166.....	515	55084.....	331	55167.....	332	560088.....	516
5405612.....	512	5406P24.....	513	55018.....	515	55085.....	331	55168.....	332	56009.....	285
540564.....	512	5406P32.....	513	550188.....	421	55086.....	331	55170.....	332	56010.....	285
540566.....	512	5406P4.....	513	550212.....	515	55087.....	331	55174.....	332	56011.....	285
540568.....	512	5406P6.....	513	5502128.....	515	55088.....	331	55175.....	332	560112.....	516
5405812.....	512	5406P8.....	513	550216.....	421	55089.....	331	55176.....	332	560116.....	516
5405816.....	512	5406SHP12.....	513	55021612.....	515	55090.....	331	55177.....	332	56012.....	285
540588.....	512	5406SHP16.....	513	55021616.....	515	55092.....	331	55178.....	332	560122.....	516
540602.....	124	5406SHP2.....	513	55022.....	515	55093.....	331	55179.....	332	56013.....	285
540602S.....	124	5406SHP20.....	513	550220.....	515	55096.....	331	55180.....	332	56014.....	285
540602SC.....	129	5406SHP24.....	513	550224.....	515	55097.....	331	55181.....	332	560144.....	516
540604.....	124	5406SHP32.....	513	55024.....	515	55098.....	331	55182.....	332	56015.....	285
540604S.....	124	5406SHP4.....	513	550248.....	421	55099.....	331	55183.....	332	560166.....	516
540604SC.....	129	5406SHP6.....	513	55026.....	515	55100.....	331	55184.....	332	56017.....	285
540606.....	124	5406SHP8.....	513	550264.....	515	55101.....	331	55185.....	332	56020.....	285
540606S.....	124	540802C.....	129	550268.....	515	55102.....	331	55186.....	332	56021.....	285
540606SC.....	129	540804.....	124	550280.....	421	55103.....	331	55187.....	332	560212.....	516
540608.....	124	540804S.....	124	5502812.....	515	55104.....	331	55190.....	332	560216.....	516
540608SC.....	129	540804SC.....	129	550284.....	515	55105.....	331	55191.....	332	56022.....	285
5406124.....	513	540806.....	124	550286.....	515	55106.....	331	55192.....	332	560222.....	516
5406126.....	513	540806S.....	124	550288.....	515	55107.....	331	55193.....	332	56023.....	285
5406128.....	513	540806SC.....	129	550312.....	421	55108.....	331	55194.....	332	56024.....	285
54061612.....	513	540808.....	124	55031212.....	515	55109.....	331	55200.....	332	560244.....	516
5406164.....	513	540808S.....	124	550316.....	515	55111.....	331	55201.....	332	56025.....	285
5406166.....	513	540808SC.....	129	55032.....	515	55115.....	331	55203.....	332	56026.....	285
5406168.....	513	541006.....	124	55034.....	515	55116.....	331	55205.....	332	560266.....	516
54062012.....	513	541006SC.....	129	55036.....	515	55117.....	331	55207.....	332	56027.....	285
54062016.....	513	541008.....	124	55038.....	515	55118.....	331	55209.....	332	56028.....	285
5406206.....	513	541008S.....	124	550412.....	515	55120.....	331	55211.....	332	560288.....	516
5406208.....	513	541008SC.....	129	5504128.....	515	55121.....	331	55213.....	332	56029.....	285
54062412.....	513	541208.....	124	550416.....	515	55122.....	331	55214.....	332	56030.....	285
54062416.....	513	541208SC.....	129	55041612.....	515	55123.....	331	55215.....	332	56031.....	285
54062420.....	513	541212.....	124	55042.....	515	55124.....	331	55216.....	332	560312.....	516
5406248.....	513	545302C.....	129	550420.....	515	55125.....	331	55217.....	332	560316.....	516
54063212.....	513	550012.....	421	550424.....	515	55126.....	331	55218.....	332	56032.....	285
54063216.....	513	55001212.....	514	55044.....	515	55127.....	331	55230.....	332	560322.....	516
54063220.....	513	5500128.....	514	550442.....	515	55128.....	331	55231.....	332	56033.....	285
54063224.....	513	550016.....	514	55046.....	515	55129.....	331	55232.....	332	56034.....	285
540642.....	513	55001612.....	514	55048.....	515	55131.....	331	55233.....	332	560344.....	516
540662.....	513	55001612.....	514	550484.....	515	55132.....	331	55234.....	332	56035.....	285
540664.....	513	55002.....	514	550486.....	515	55133.....	331	55235.....	332	56036.....	285
540682.....	513	550020.....	421	550512.....	515	55134.....	331	55236.....	332	560366.....	516
540684.....	513	55002016.....	514	550516.....	515	55135.....	331	55237.....	332	56038.....	285
540686.....	513	55002020.....	514	550520.....	515	55140.....	332	55238.....	332	560388.....	516
5406C12.....	514	550024.....	514	55054.....	515	55141.....	332	55239.....	332	56040.....	286
5406C16.....	514	550028.....	421	55056.....	515	55142.....	332	55240.....	331	56041.....	286
5406C2.....	514	550032.....	514	55058.....	515	55143.....	332	55241.....	331	560412.....	516
5406C4.....	514	550036.....	421	55060.....	331	55144.....	332	55242.....	332	560416.....	516



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
56042.....	286	56106.....	288	56189.....	290	56294.....	290	57067.....	286	57147.....	289
560422.....	516	56107.....	288	56190.....	290	56295.....	290	57068.....	286	57148.....	289
56043.....	286	56108.....	288	56191.....	290	56296.....	290	57069.....	286	57149.....	289
56044.....	286	56109.....	288	56192.....	290	56297.....	290	57070.....	286	57150.....	289
560444.....	516	56110.....	288	56193.....	290	56300.....	292	57071.....	286	57151.....	289
56045.....	286	56111.....	288	56200.....	291	56330.....	291	57072.....	286	57152.....	289
56046.....	286	56112.....	288	56201.....	291	56331.....	291	57073.....	286	57153.....	289
560466.....	516	56113.....	288	56202.....	291	56332.....	291	57074.....	286	57154.....	289
56047.....	286	56114.....	288	56203.....	291	56430.....	286	57075.....	286	57155.....	289
56048.....	286	56115.....	288	56204.....	291	57001.....	285	57076.....	286	57160.....	290
560488.....	516	56120.....	289	56205.....	291	57002.....	285	57080.....	287	57161.....	290
56049.....	286	56121.....	289	56206.....	291	57003.....	285	57081.....	287	57162.....	290
56050.....	286	56122.....	289	56207.....	291	57004.....	285	57082.....	287	57162GBS.....	301
56051.....	286	56123.....	289	56208.....	291	57005.....	285	57083.....	287	57162TV.....	300
560512.....	516	56124.....	289	56209.....	291	57006.....	285	57084.....	287	57162V.....	301
560516.....	516	56125.....	289	56210.....	291	57007.....	285	57085.....	287	57163.....	290
56052.....	286	56126.....	289	56211.....	291	57008.....	285	57086.....	287	57164.....	290
560520.....	516	56127.....	289	56212.....	291	57009.....	285	57087.....	287	57164TV.....	300
560522.....	516	56128.....	289	56213.....	291	57010.....	285	57088.....	287	57164V.....	301
56053.....	286	56129.....	289	56220.....	291	57011.....	285	57089.....	287	57165.....	290
56054.....	286	56130.....	289	56221.....	291	57012.....	285	57090.....	287	57166.....	290
560544.....	516	56131.....	289	56223.....	291	57013.....	285	57091.....	287	57167.....	290
56055.....	286	56132.....	289	56224.....	291	57014.....	285	57092.....	287	57168.....	290
56056.....	286	56133.....	289	56225.....	291	57015.....	285	57093.....	287	57168TV.....	300
560566.....	516	56134.....	289	56226.....	291	57017.....	285	57094.....	287	57168V.....	301
56058.....	516	56135.....	289	56227.....	291	57020.....	285	57095.....	287	57169.....	290
56060.....	286	56140.....	289	56228.....	291	57021.....	285	57096.....	287	57170.....	290
56061.....	286	56141.....	289	56229.....	291	57022.....	285	57100.....	288	57170TV.....	300
56062.....	286	56142.....	289	56240.....	286	57023.....	285	57101.....	288	57170V.....	301
56063.....	286	56143.....	289	56241.....	286	57024.....	285	57102.....	288	57171.....	290
56064.....	286	56144.....	289	56242.....	286	57025.....	285	57103.....	288	57172.....	290
56065.....	286	56145.....	289	56243.....	286	57026.....	285	57104.....	288	57172TV.....	300
56066.....	286	56146.....	289	56244.....	286	57027.....	285	57105.....	288	57172V.....	301
56067.....	286	56147.....	289	56245.....	286	57028.....	285	57106.....	288	57173.....	290
56068.....	286	56148.....	289	56246.....	286	57029.....	285	57107.....	288	57174.....	290
56069.....	286	56149.....	289	56247.....	286	57030.....	285	57108.....	288	57174TV.....	300
56070.....	286	56150.....	289	56250.....	287	57031.....	285	57109.....	288	57174V.....	301
56071.....	286	56151.....	289	56251.....	287	57032.....	285	57110.....	288	57180.....	290
56072.....	286	56152.....	289	56252.....	287	57033.....	285	57111.....	288	57181.....	290
56073.....	286	56153.....	289	56253.....	287	57034.....	285	57112.....	288	57182.....	290
56074.....	286	56154.....	289	56254.....	287	57035.....	285	57113.....	288	57183.....	290
56075.....	286	56155.....	289	56255.....	287	57036.....	285	57114.....	288	57184.....	290
56076.....	286	56160.....	290	56256.....	287	57040.....	286	57115.....	288	57185.....	290
56080.....	287	56161.....	290	56257.....	287	57041.....	286	57120.....	289	57186.....	290
56081.....	287	56162.....	290	56260.....	288	57042.....	286	57121.....	289	57187.....	290
56082.....	287	56163.....	290	56261.....	288	57043.....	286	57122.....	289	57188.....	290
56083.....	287	56164.....	290	56262.....	288	57044.....	286	57123.....	289	57189.....	290
56084.....	287	56165.....	290	56263.....	288	57045.....	286	57124.....	289	57190.....	290
56085.....	287	56166.....	290	56264.....	288	57046.....	286	57125.....	289	57191.....	290
56086.....	287	56167.....	290	56265.....	288	57047.....	286	57126.....	289	57192.....	290
56087.....	287	56168.....	290	56266.....	288	57048.....	286	57127.....	289	57193.....	290
56088.....	287	56169.....	290	56267.....	288	57049.....	286	57128.....	289	57200.....	291
56089.....	287	56170.....	290	56270.....	289	57050.....	286	57129.....	289	57201.....	291
56090.....	287	56171.....	290	56271.....	289	57051.....	286	57130.....	289	57201GBS.....	301
56091.....	287	56172.....	290	56272.....	289	57052.....	286	57131.....	289	57201TV.....	300
56092.....	287	56173.....	290	56273.....	289	57053.....	286	57132.....	289	57201V.....	301
56093.....	287	56174.....	290	56275.....	289	57054.....	286	57133.....	289	57202.....	291
56094.....	287	56180.....	290	56280.....	289	57055.....	286	57134.....	289	57203.....	291
56095.....	287	56181.....	290	56281.....	289	57056.....	286	57135.....	289	57203TV.....	300
56096.....	287	56182.....	290	56282.....	289	57060.....	286	57140.....	289	57203V.....	301
56100.....	288	56183.....	290	56283.....	289	57061.....	286	57141.....	289	57204.....	291
56101.....	288	56184.....	290	56285.....	289	57062.....	286	57142.....	289	57205.....	291
56102.....	288	56185.....	290	56290.....	290	57063.....	286	57143.....	289	57206.....	291
56103.....	288	56186.....	290	56291.....	290	57064.....	286	57144.....	289	57207.....	291
56104.....	288	56187.....	290	56292.....	290	57065.....	286	57145.....	289	57207TV.....	300
56105.....	288	56188.....	290	56293.....	290	57066.....	286	57146.....	289	57207V.....	301

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
57208	291	57291	290	59060SMLS	294	59121SMLS	296	59181SMLS	297	600040	417
57209	291	57292	290	59060SMLSXX	299	59122SMLS	296	59182SMLS	297	600044	417
57209TV	300	57293	290	59061SMLS	294	59123SMLS	296	59183SMLS	297	600048	417
57209V	301	57294	290	59062SMLS	294	59124SMLS	296	59184SMLS	297	600052	417
57210	291	57295	290	59062SMLSXX	299	59125SMLS	296	59185SMLS	297	600056	417
57211	291	57296	290	59063SMLS	294	59126SMLS	296	59186SMLS	297	600060	417
57211TV	300	57297	290	59064SMLS	294	59127SMLS	296	59187SMLS	297	600064	417
57211V	301	57300	292	59064SMLSXX	299	59128SMLS	296	59188SMLS	297	600072	417
57212	291	57301	292	59065SMLS	294	59129SMLS	296	59189SMLS	297	600080	417
57213	291	57304	292	59066SMLS	294	59130SMLS	296	59190SMLS	297	600088	417
57213TV	300	57305	292	59066SMLSXX	299	59131SMLS	296	59191SMLS	297	600096	417
57213V	301	57306	292	59067SMLS	294	59132SMLS	296	59192SMLS	297	600104	417
57220	291	57308	292	59068SMLS	294	59133SMLS	296	59193SMLS	297	61050	531
57222GBS	301	57311	291	59069SMLS	294	59134SMLS	296	59196SMLS	297	61052	531
57222TV	300	57330	291	59070SMLS	294	59135SMLS	296	59197SMLS	297	61053	531
57223	291	57331	291	59070SMLSXX	299	59140SMLS	296	59198SMLS	297	61054	531
57223TV	300	57332	291	59071SMLS	294	59141SMLS	296	59199SMLS	297	611006	418
57223V	301	57332TV	300	59072SMLS	294	59142SMLS	296	59201TV	300	611008	418
57224	291	57332V	301	59073SMLS	294	59143SMLS	296	59201V	301	611010	418
57225	291	57400GBS	301	59074SMLS	294	59144SMLS	296	59203TV	300	611012	418
57226	291	57430	286	59075SMLS	294	59145SMLS	296	59203V	301	611016	418
57227	291	57431	286	59076SMLS	294	59146SMLS	296	59207TV	300	611020	418
57227TV	300	57500GBS	301	590800	120	59147SMLS	296	59207V	301	611024	418
57227V	301	57600GBS	301	59080SMLS	295	59148SMLS	296	59209TV	300	611028	418
57228	291	59001SMLS	293	59080SMLSXX	299	59149SMLS	296	59209V	301	611032	418
57228TV	300	59002SMLS	293	59081SMLS	295	59150SMLS	296	59211TV	300	611036	418
57228V	301	59003SMLS	293	59082SMLS	295	59151SMLS	296	59211V	301	611040	418
57229	291	59004SMLS	293	59082SMLSXX	299	59152SMLS	296	59213TV	300	611044	418
57229TV	300	59005SMLS	293	59083SMLS	295	59153SMLS	296	59213V	301	611048	418
57229V	301	59006SMLS	293	59084SMLS	295	59154SMLS	296	59220SMLS	298	611052	418
57240	286	59007SMLS	293	59085SMLS	295	59155SMLS	296	59221SMLS	298	611056	418
57241	286	59009SMLS	293	59086SMLS	295	59160SMLS	297	59221TV	300	611060	418
57242	286	59010SMLS	293	59086SMLSXX	299	59160SMLSXX	299	59221V	301	611064	418
57243	286	59011SMLS	293	59087SMLS	295	59161SMLS	297	59222TV	300	611072	418
57244	286	59020SMLS	293	59088SMLS	295	59161SMLSXX	299	59223SMLS	298	611080	418
57245	286	59021SMLS	293	59089SMLS	295	59162SMLS	297	59224SMLS	298	611088	418
57246	286	59022SMLS	293	59090SMLS	295	59162SMLSXX	299	59225SMLS	298	611096	418
57247	286	59023SMLS	293	59090SMLSXX	299	59162V	301	59225TV	300	611104	418
57250	287	59024SMLS	293	59091SMLS	295	59163SMLS	297	59225V	301	611116	418
57251	287	59025SMLS	293	59092SMLS	295	59163SMLSXX	299	59226SMLS	298	611128	418
57252	287	59026SMLS	293	59094SMLS	295	59164SMLS	297	59227SMLS	298	611152	418
57253	287	59027SMLS	293	59096SMLS	295	59164SMLSXX	299	59227TV	300	611164	418
57254	287	59028SMLS	293	59100SMLS	295	59164V	301	59227V	301	611176	418
57255	287	59029SMLS	293	59100SMLSXX	299	59165SMLS	297	59228SMLS	298	611188	418
57256	287	59030SMLS	293	59101SMLS	295	59166SMLS	297	59229SMLS	298	611200	418
57257	287	59031SMLS	293	59101SMLSXX	299	59166SMLSXX	299	59229TV	300	611212	418
57260	288	59032SMLS	293	59102SMLS	295	59167SMLS	297	59229V	301	611224	418
57261	288	59033SMLS	293	59103SMLS	295	59168SMLS	297	59231SMLS	298	611248	418
57262	288	59034SMLS	293	59103SMLSXX	299	59168SMLSXX	299	59231TV	300	611270	418
57263	288	59036SMLS	293	59104SMLS	295	59168V	301	59231V	301	611312	418
57264	288	590400	120	59105SMLS	295	59169SMLS	297	59300SMLS	298	611332	418
57265	288	59040SMLS	294	59105SMLSXX	299	59169SMLSXX	299	59301SMLS	298	611390	418
57266	288	59041SMLS	294	59106SMLS	295	59170SMLS	297	59305SMLS	298	61150	531
57267	288	59042SMLS	294	59107SMLS	295	59170SMLSXX	299	59306SMLS	298	61152	531
57270	289	59043SMLS	294	59108SMLS	295	59170V	301	59308SMLS	298	61153	531
57271	289	59044SMLS	294	59109SMLS	295	59171SMLS	297	595320	120	61154	531
57272	289	59045SMLS	294	59109SMLSXX	299	59171SMLSXX	299	600006	417	61447	357
57273	289	59046SMLS	294	59110SMLS	295	59172SMLS	297	600008	417	61448	357
57275	289	59047SMLS	294	59111SMLS	295	59172SMLSXX	299	600010	417	61449	357
57280	289	59048SMLS	294	59111SMLSXX	299	59172V	301	600012	417	61450	357
57281	289	59049SMLS	294	59112SMLS	295	59173SMLS	297	600016	417	61451	357
57282	289	59050SMLS	294	59113SMLS	295	59174SMLS	297	600020	417	61452	357
57283	289	59052SMLS	294	59114SMLS	295	59174SMLSXX	299	600024	417	61453	357
57285	289	59054SMLS	294	59115SMLS	295	59174V	301	600028	417	61454	357
57286	289	59056SMLS	294	59115SMLSXX	299	59179SMLSXX	299	600032	417	61455	357
57290	290	590600	120	59120SMLS	296	59180SMLS	297	600036	417	61457	357

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
61775	269	620056	419	62180	277	62434	279	62559	281	63075	280
61776	269	620056SS	420	62181	277	62435	279	62600	280	63076	280
61777	269	620060	419	62182	277	62436	279	62601	280	63077	280
61778	269	620060SS	420	62183	277	62437	279	62602	280	63078	280
61-851	348	620064	419	62184	277	62438	279	62603	280	63079	280
61-853	348	620064SS	420	62185	277	62440	279	62604	280	63080	280
61-854	348	620072	419	62186	277	62441	279	62605	280	63081	280
61859	348	620072SS	420	62187	277	62442	279	62606	280	63082	280
61860	348	620080	419	62188	277	62445	279	62607	280	63083	280
61861	348	620088	419	62189	277	62446	279	62608	280	63160	277
61865	349	620096	419	62190	277	62447	279	62610	280	63161	277
61866	349	620104	419	62191	277	62448	279	62630	282	63162	277
61867	349	620116	419	62250	278	62449	279	62631	282	63163	277
61868	349	620128	419	62251	278	62450	279	62632	282	63164	277
61872	348	620152	419	62252	278	62451	279	62633	282	63165	277
61873	348	620164	419	62253	278	62452	279	62634	282	63166	277
61874	348	620176	419	62254	278	62453	279	62635	282	63167	277
61875	348	620188	419	62255	278	62454	279	62636	282	63168	277
61876	348	620200	419	62256	278	62455	279	62637	282	63170	277
61877	348	620212	419	62257	278	62456	279	62638	282	63171	277
61878	348	620224	419	62258	278	62470	280	62653	282	63180	277
61879	348	620248	419	62259	278	62471	280	62654	282	63181	277
619001	349	620270	419	62260	278	62472	280	62655	282	63182	277
619002	349	620312	419	62391	278	62473	280	62656	282	63183	277
619003	349	620332	419	62392	278	62474	280	62657	282	63184	277
619004	349	620390	419	62393	278	62475	280	62658	282	63185	277
619005	349	620400	120	62394	278	62476	280	62659	282	63186	277
619006	349	620400C	127	62395	278	62477	280	62660	282	63187	277
619007	349	620409C	130	62396	278	62478	280	62670	282	63188	277
619008	349	620532	120	62397	278	62480	280	62671	282	63190	277
619009	349	620532C	127	62398	278	62481	280	62672	282	63192	277
619010	349	620553C	130	62410	279	62500	281	62700	282	63214	13
619011	349	620555C	130	62410B	279	62501	281	62701	282	63215	13
619012	349	620557C	130	62411	279	62502	281	62702	282	63216	13
619440	349	620559C	130	62411B	279	62503	281	62703	282	63217	13
619450	349	620600	120	62412	279	62504	281	62704	282	63218	13
619470	349	620600C	127	62412B	279	62505	281	62705	282	63250	278
619480	349	620604	120	62413	279	62506	281	62706	282	63251	278
620006	419	620604C	130	62413B	279	62507	281	62707	282	63252	278
620006SS	420	620606C	130	62414	279	62508	281	62708	282	63253	278
620008	419	62075	280	62414B	279	62509	281	62720	278	63254	278
620008SS	420	62076	280	62415	279	62510	281	62721	278	63255	278
620010	419	62077	280	62415B	279	62511	281	62722	278	63256	278
620010SS	420	62078	280	62415DC	269	62512	281	62723	278	63257	278
620012	419	62079	280	62415HDDC	269	62513	281	62724	278	63258	278
620012SS	420	62080	280	62416	279	62515	281	62725	278	63260	278
620016	419	620800	120	62416B	279	62516	281	62726	278	63261	278
620016SS	420	620800C	127	62416DC	269	62517	281	62727	278	63390	278
620020	419	620806C	130	62416HDDC	269	62518	281	62728	278	63391	278
620020SS	420	620808C	130	62417	279	62521	281	62740	278	63392	278
620024	419	62081	280	62417B	279	62522	281	62741	278	63393	278
620024SS	420	62082	280	62417DC	269	62524	281	62742	278	63394	278
620028	419	62083	280	62417HDDC	269	62527	281	62744	278	63395	278
620028SS	420	621000	120	62418	279	62528	281	62745	278	63396	278
620032	419	621000C	127	62418B	279	62529	281	62747	278	63397	278
620032SS	420	621200	120	62418DC	269	62530	281	62748	278	63398	278
620036	419	62160	277	62418HDDC	269	62531	281	62749	278	63400	278
620036SS	420	62161	277	62419	279	62532	281	62770	280	63401	278
620040	419	62162	277	62420	279	62534	281	62771	280	63410	279
620040SS	420	62163	277	62420B	279	62535	281	62772	280	63410B	279
620044	419	62164	277	62421	279	62536	281	62773	280	63411	279
620044SS	420	62165	277	62428	279	62537	281	62774	280	63411B	279
620048	419	62166	277	62430	279	62538	281	62775	280	63412	279
620048SS	420	62167	277	62431	279	62539	281	62776	280	63412B	279
620052	419	62168	277	62432	279	62543	281	62777	280	63413	279
620052SS	420	62169	277	62433	279	62557	281	62778	280	63413B	279

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
63414.....	279	63527.....	281	63725.....	278	64004.....	517	640502420.....	518	641002420.....	519
63414B.....	279	63528.....	281	63726.....	278	640042.....	517	640502424.....	518	641003216.....	519
63415.....	279	63529.....	281	63727.....	278	640046.....	517	6405032.....	518	641003220.....	519
63415B.....	279	63530.....	281	63728.....	278	640048.....	517	640503224.....	518	641003224.....	519
63416.....	279	63531.....	281	63740.....	278	64005.....	517	640503232.....	518	6410046.....	519
63416B.....	279	63534.....	281	63741.....	278	64006.....	517	6405034.....	518	6410064.....	519
63417.....	279	63535.....	281	63742.....	278	6400610.....	517	6405042.....	518	6410068.....	519
63417B.....	279	63537.....	281	63744.....	278	6400612.....	517	6405044.....	518	64100812.....	519
63418.....	279	63538.....	281	63745.....	278	6400616.....	517	6405052.....	518	6410084.....	519
63418B.....	279	63540.....	281	63747.....	278	640064.....	517	6405054.....	518	6410086.....	519
63419.....	279	63541.....	281	63748.....	278	640068.....	517	6405062.....	518	6410088.....	519
63420.....	279	63543.....	281	63749.....	278	64008.....	517	6405064.....	518	64110.....	305
63421.....	279	63550.....	281	63759.....	283	6400810.....	517	6405066.....	518	64112.....	305
63430.....	279	63600.....	280	63760.....	283	6400812.....	517	6405068.....	518	64114.....	305
63431.....	279	63601.....	280	63761.....	283	640084.....	517	64050812.....	518	641200.....	120
63432.....	279	63602.....	280	63762.....	283	640086.....	517	6405084.....	518	64122.....	305
63433.....	279	63603.....	280	63763.....	283	6401108.....	517	6405086.....	518	64123.....	305
63434.....	279	63604.....	280	63764.....	283	64011212.....	517	6405088.....	518	64124.....	305
63435.....	279	63605.....	280	63765.....	283	6401128.....	517	640600.....	120	64126.....	305
63436.....	279	63606.....	280	63771.....	280	64011616.....	517	640600C.....	127	64127.....	305
63437.....	279	63607.....	280	63772.....	280	64012020.....	517	640800.....	120	64130.....	305
63438.....	279	63608.....	280	63773.....	280	64012020.....	517	640800C.....	127	64131.....	305
63440.....	279	63610.....	280	63774.....	280	64012424.....	517	6408HO10.....	518	64133.....	305
63441.....	279	63630.....	282	63775.....	280	640142.....	517	6408HO12.....	518	64134.....	305
63442.....	279	63631.....	282	63776.....	280	640144.....	517	6408HO14.....	518	64136.....	305
63445.....	279	63632.....	282	63777.....	280	640164.....	517	6408HO16.....	518	64137.....	305
63446.....	279	63633.....	282	63778.....	280	640166.....	517	6408HO2.....	518	64138.....	305
63447.....	279	63634.....	282	63850.....	354	6401812.....	517	6408HO20.....	518	64140.....	305
63448.....	279	63635.....	282	63851.....	354	640186.....	517	6408HO24.....	518	64141.....	305
63449.....	279	63636.....	282	63852.....	354	640188.....	517	6408HO4.....	518	64142.....	305
63450.....	279	63637.....	282	63853.....	354	640201010.....	517	6408HO5.....	518	64145.....	305
63452.....	279	63638.....	282	63854.....	354	640201212.....	517	6408HO6.....	518	64146.....	305
63453.....	279	63641.....	282	63855.....	354	6402044.....	517	6408HO8.....	518	64148.....	305
63454.....	279	63653.....	282	63856.....	354	6402066.....	517	6408O10.....	518	64160.....	305
63455.....	279	63654.....	282	63857.....	354	6402068.....	517	6408O12.....	518	64161.....	305
63459.....	279	63655.....	282	639002.....	354	6402086.....	517	6408O14.....	518	64162.....	305
63470.....	280	63656.....	282	639003.....	354	6402088.....	517	6408O16.....	518	64163.....	305
63471.....	280	63657.....	282	639004.....	354	6403012.....	517	6408O2.....	518	64164.....	305
63472.....	280	63658.....	282	639440.....	354	6403016.....	517	6408O20.....	518	64165.....	305
63473.....	280	63660.....	283	639450.....	354	640304.....	517	6408O24.....	518	64166.....	305
63474.....	280	63661.....	283	639470.....	354	640306.....	517	6408O4.....	518	64167.....	305
63475.....	280	63662.....	283	639480.....	354	640308.....	517	6408O5.....	518	64168.....	305
63476.....	280	63663.....	283	640010.....	517	640400.....	120	6408O6.....	518	64169.....	305
63477.....	280	63664.....	283	64001012.....	517	640400C.....	127	6408O8.....	518	64170.....	305
63478.....	280	63665.....	283	6400106.....	517	6404108.....	518	64100.....	305	64171.....	305
63480.....	280	63670.....	282	6400108.....	517	64041212.....	518	641000.....	120	64180.....	306
63500.....	281	63671.....	282	640012.....	517	64041616.....	518	641000C.....	127	64181.....	306
63501.....	281	63672.....	282	64001210.....	517	640442.....	518	64101.....	305	64182.....	306
63502.....	281	63680.....	283	64001214.....	517	640444.....	518	64102.....	305	64183.....	306
63504.....	281	63681.....	283	64001216.....	517	640464.....	518	64103.....	305	64184.....	306
63505.....	281	63682.....	283	6400128.....	517	640466.....	518	64104.....	305	64185.....	306
63506.....	281	63683.....	283	640016.....	517	640468.....	518	64105.....	305	64186.....	306
63507.....	281	63684.....	283	64001612.....	517	640486.....	518	64106.....	305	64187.....	306
63508.....	281	63701.....	282	64001620.....	517	640488.....	518	64107.....	305	64188.....	306
63509.....	281	63702.....	282	64001624.....	517	64050104.....	518	64108.....	305	64189.....	306
63510.....	281	63703.....	282	64002.....	517	64050106.....	518	64109.....	305	64190.....	306
63511.....	281	63704.....	282	640020.....	517	64050108.....	518	6410O124.....	519	64191.....	306
63512.....	281	63705.....	282	64002012.....	517	640501212.....	518	6410O126.....	519	64192.....	306
63513.....	281	63706.....	282	64002016.....	517	640501216.....	518	6410O128.....	519	64250.....	307
63516.....	281	63707.....	282	64002024.....	517	64050126.....	518	6410O1612.....	519	64251.....	307
63517.....	281	63708.....	282	640024.....	517	64050128.....	518	6410O166.....	519	64252.....	307
63518.....	281	63720.....	278	64002420.....	517	640501612.....	518	6410O168.....	519	64253.....	307
63521.....	281	63721.....	278	64002432.....	517	640501616.....	518	6410O2012.....	519	64254.....	307
63522.....	281	63722.....	278	64003.....	517	640502020.....	518	6410O2016.....	519	64255.....	307
63523.....	281	63723.....	278	640032.....	517	6405022.....	518	6410O2412.....	519	64256.....	307
63524.....	281	63724.....	278	64003224.....	517	640502416.....	518	6410O2416.....	519	64257.....	307

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
64258.....	307	64433.....	309	64520.....	310	64661.....	311	650364.....	519	65136.....	305
64259.....	307	64434.....	309	64521.....	310	64692.....	313	650366.....	519	65137.....	305
64260.....	307	64435.....	309	64522.....	310	64693.....	313	650386.....	519	65138.....	305
64261.....	307	64436.....	309	64523.....	310	64694.....	313	650388.....	519	65140.....	305
64262.....	307	64437.....	309	64524.....	310	64695.....	313	650400.....	120	65141.....	305
64268.....	307	64438.....	309	64525.....	310	64696.....	313	650400C.....	127	65142.....	305
64269.....	307	64439.....	309	64526.....	310	64703.....	312	65041010.....	520	65145.....	305
64273.....	307	64440.....	309	64527.....	310	64704.....	312	65041212.....	520	65146.....	305
64276.....	307	64441.....	309	64528.....	310	64705.....	312	65041616.....	520	65148.....	305
64279.....	307	64442.....	309	64529.....	310	64706.....	312	65042020.....	520	65160.....	305
64280.....	308	64443.....	309	64530.....	310	64707.....	312	650444.....	520	65161.....	305
64282.....	307	64444.....	309	64531.....	310	64708.....	312	650466.....	520	65162.....	305
64283.....	307	64445.....	309	64532.....	310	64721.....	307	650488.....	520	65163.....	305
64286.....	307	64446.....	309	645320C.....	127	64729.....	307	65051212.....	520	65164.....	305
64289.....	308	64447.....	309	64533.....	310	64733.....	308	6505128.....	520	65165.....	305
64291.....	307	64448.....	309	64534.....	310	64770.....	302	65051612.....	520	65166.....	305
64298.....	307	64449.....	309	64535.....	310	64771.....	302	65051616.....	520	65167.....	305
64299.....	308	64450.....	309	64537.....	310	64772.....	302	65052424.....	520	65168.....	305
64300.....	308	64451.....	309	64538.....	310	64773.....	302	650542.....	520	65169.....	305
64301.....	307	64452.....	309	64539.....	310	64773H.....	302	650544.....	520	65170.....	305
64303.....	307	64453.....	309	64540.....	310	64774.....	302	650546.....	520	65171.....	305
64306.....	307	64454.....	309	64541.....	310	64774H.....	302	650564.....	520	65180.....	306
64316.....	307	64456.....	309	64542.....	310	64775.....	302	650566.....	520	65181.....	306
64317.....	308	64457.....	309	64543.....	310	64775H.....	302	650586.....	520	65182.....	306
64318.....	307	64458.....	309	64545.....	310	64776.....	302	650588.....	520	65183.....	306
64322.....	307	64459.....	309	64546.....	310	64776H.....	302	650600.....	120	65184.....	306
64327.....	307	64460.....	309	64547.....	310	64777.....	302	650600C.....	127	65185.....	306
64328.....	307	64461.....	309	64549.....	310	64777H.....	302	6506106.....	520	65186.....	306
64330.....	307	64462.....	309	64550.....	310	64778.....	302	65061212.....	520	65187.....	306
64334.....	307	64463.....	309	64551.....	310	64778H.....	302	6506128.....	520	65188.....	306
64336.....	307	64464.....	309	64552.....	310	64779.....	302	65061616.....	520	65189.....	306
64343.....	307	64465.....	309	64553.....	310	64780.....	302	65062020.....	520	65190.....	306
64351.....	307	64470.....	311	64573.....	312	64780H.....	302	65062424.....	520	65191.....	306
64363.....	308	64471.....	311	64574.....	312	64781.....	302	65063232.....	520	65192.....	306
64364.....	308	64472.....	311	64575.....	312	64781H.....	302	650642.....	520	65194.....	306
64383.....	308	64473.....	311	64576.....	312	650010.....	519	650644.....	520	65250.....	307
64384.....	308	64474.....	311	64577.....	312	6500108.....	519	650664.....	520	65251.....	307
64385.....	308	64475.....	311	64578.....	312	650012.....	519	650666.....	520	65252.....	307
64386.....	308	64476.....	311	64583.....	312	650016.....	519	650668.....	520	65253.....	307
64390.....	306	64477.....	311	64584.....	312	650020.....	519	650686.....	520	65254.....	307
64391.....	306	64478.....	311	64585.....	312	650024.....	519	650688.....	520	65255.....	307
64392.....	306	64479.....	311	64586.....	312	650032.....	519	650688.....	520	65255.....	307
64393.....	306	64480.....	311	64587.....	312	650032.....	519	650800.....	120	65256.....	307
64394.....	306	64481.....	311	64588.....	312	65004.....	519	650800C.....	127	65257.....	307
64395.....	306	64482.....	311	64588.....	312	65006.....	519	65100.....	305	65258.....	307
64396.....	306	64486.....	309	64600.....	311	65008.....	519	65101.....	305	65259.....	307
64397.....	306	64500.....	310	64601.....	311	650086.....	519	65102.....	305	65260.....	307
64398.....	306	64501.....	310	64602.....	311	6501108.....	519	65103.....	305	65261.....	307
64399.....	306	64502.....	310	64603.....	311	65011212.....	519	65104.....	305	65262.....	307
64400.....	306	64503.....	310	64604.....	311	65011616.....	519	65105.....	305	65264.....	307
64410.....	309	64504.....	310	64605.....	311	65012020.....	519	65106.....	305	65268.....	307
64411.....	309	64505.....	310	64606.....	311	65012424.....	519	65107.....	305	65269.....	307
64412.....	309	64506.....	310	64607.....	311	65013232.....	519	65108.....	305	65273.....	307
64413.....	309	64507.....	310	64608.....	311	650142.....	519	65109.....	305	65276.....	307
64414.....	309	64508.....	310	64609.....	311	650144.....	519	65110.....	305	65279.....	307
64415.....	309	64509.....	310	64610.....	311	650164.....	519	65112.....	305	65282.....	307
64416.....	309	64510.....	310	64611.....	311	650166.....	519	65114.....	305	65283.....	307
64417.....	309	64511.....	310	64651.....	311	650186.....	519	65115.....	305	65286.....	307
64418.....	309	64512.....	310	64652.....	311	650188.....	519	65122.....	305	65291.....	307
64419.....	309	64513.....	310	64653.....	311	650210.....	519	65123.....	305	65298.....	307
64420.....	309	64514.....	310	64654.....	311	650212.....	519	65124.....	305	65301.....	307
64421.....	309	64515.....	310	64655.....	311	650216.....	519	65126.....	305	65303.....	307
64422.....	309	64516.....	310	64656.....	311	65024.....	519	65127.....	305	65306.....	307
64430.....	309	64517.....	310	64657.....	311	65026.....	519	65130.....	305	65316.....	307
64431.....	309	64518.....	310	64658.....	311	65028.....	519	65131.....	305	65318.....	307
64432.....	309	64519.....	310	64659.....	311	65031212.....	519	65133.....	305	65322.....	307
				64660.....	311	650344.....	519	65134.....	305	65327.....	307



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
65328.....	307	65458.....	309	65543.....	310	65773H.....	302	66026.....	520	66702.....	314
65330.....	307	65459.....	309	65544.....	310	65774.....	302	66028.....	520	66704.....	314
65334.....	307	65460.....	309	65545.....	310	65774API.....	303	660402.....	121	66705.....	314
65336.....	307	65461.....	309	65546.....	310	65774H.....	302	660402C.....	127	66708.....	314
65342.....	307	65462.....	309	65547.....	310	65775.....	302	660404.....	121	66709.....	314
65343.....	307	65463.....	309	65549.....	310	65775API.....	303	660404C.....	127	66712.....	314
65351.....	307	65464.....	309	65550.....	310	65775H.....	302	660406C.....	127	66713.....	314
65359.....	307	65465.....	309	65551.....	310	65776.....	302	660602.....	121	66760.....	315
65383.....	308	65470.....	311	65552.....	310	65776API.....	303	660602C.....	127	66761.....	315
65384.....	308	65471.....	311	65553.....	310	65776H.....	302	660604.....	121	66762.....	315
65385.....	308	65472.....	311	65555.....	310	65777.....	302	660604C.....	127	66763.....	315
65386.....	308	65473.....	311	65583.....	312	65777API.....	303	660606.....	121	66764.....	315
65387.....	308	65474.....	311	65584.....	312	65777H.....	302	660606C.....	127	66765.....	315
65388.....	308	65475.....	311	65585.....	312	65778.....	302	660608C.....	127	66766.....	315
65390.....	306	65476.....	311	65586.....	312	65778API.....	303	660802C.....	127	66767.....	315
65391.....	306	65477.....	311	65587.....	312	65778H.....	302	660804.....	121	66768.....	315
65392.....	306	65478.....	311	65588.....	312	65779.....	302	660804C.....	127	66769.....	315
65393.....	306	65479.....	311	65600.....	311	65779API.....	303	660806.....	121	66770.....	315
65394.....	306	65480.....	311	65601.....	311	65779H.....	302	660806C.....	127	66771.....	315
65395.....	306	65481.....	311	65602.....	311	65780.....	302	660808.....	121	66772.....	315
65396.....	306	65482.....	311	65603.....	311	65780API.....	303	660808C.....	127	66773.....	315
65397.....	306	65486.....	309	65604.....	311	65780H.....	302	66470.....	314	66774.....	315
65398.....	306	65500.....	310	65605.....	311	65781.....	302	66471.....	314	66775.....	315
65399.....	306	65501.....	310	65606.....	311	65781API.....	303	66472.....	314	66776.....	315
65400.....	306	65502.....	310	65607.....	311	65781H.....	302	66473.....	314	66777.....	315
65401.....	306	65503.....	310	65608.....	311	65782.....	302	66474.....	314	66778.....	315
65410.....	309	65504.....	310	65609.....	311	65783.....	302	66475.....	314	67470.....	314
65411.....	309	65505.....	310	65610.....	311	65783API.....	303	66476.....	314	67471.....	314
65412.....	309	65506.....	310	65611.....	311	65784API.....	303	66477.....	314	67472.....	314
65413.....	309	65507.....	310	65650.....	311	65963.....	312	66478.....	314	67473.....	314
65414.....	309	65508.....	310	65651.....	311	65964.....	312	66500.....	314	67474.....	314
65415.....	309	65509.....	310	65652.....	311	65965.....	312	66501.....	314	67475.....	314
65416.....	309	65510.....	310	65653.....	311	65966.....	312	66502.....	314	67476.....	314
65417.....	309	65511.....	310	65654.....	311	65967.....	312	66503.....	314	67477.....	314
65418.....	309	65512.....	310	65655.....	311	65968.....	312	66504.....	314	67500.....	314
65419.....	309	65513.....	310	65656.....	311	65969.....	312	66505.....	314	67501.....	314
65420.....	309	65514.....	310	65657.....	311	65970.....	312	66506.....	314	67502.....	314
65421.....	309	65515.....	310	65658.....	311	65971.....	312	66507.....	314	67503.....	314
65422.....	309	65516.....	310	65659.....	311	66000.....	362	66508.....	314	67504.....	314
65430.....	309	65517.....	310	65660.....	311	66001.....	362	66509.....	314	67505.....	314
65431.....	309	65518.....	310	65661.....	311	660010.....	520	66510.....	314	67506.....	314
65432.....	309	65519.....	310	65662.....	311	660012.....	520	66511.....	314	67507.....	314
65433.....	309	65520.....	310	65664.....	311	660016.....	520	66512.....	314	67508.....	314
65434.....	309	65521.....	310	65692.....	313	66002.....	362	66513.....	314	67509.....	314
65435.....	309	65522.....	310	65693.....	313	660020.....	520	665302C.....	127	67510.....	314
65436.....	309	65523.....	310	65694.....	313	66003.....	362	665304C.....	127	67511.....	314
65437.....	309	65524.....	310	65695.....	313	66004.....	362	66630.....	315	67512.....	314
65438.....	309	65525.....	310	65696.....	313	660044.....	520	66631.....	315	67513.....	314
65439.....	309	65526.....	310	65703.....	312	66005.....	362	66632.....	315	67514.....	314
65440.....	309	65527.....	310	65704.....	312	66006.....	362	66633.....	315	67630.....	315
65441.....	309	65528.....	310	65705.....	312	660066.....	520	66634.....	315	67631.....	315
65442.....	309	65529.....	310	65706.....	312	66007.....	362	66635.....	315	67632.....	315
65443.....	309	65530.....	310	65707.....	312	66008.....	362	66636.....	315	67633.....	315
65444.....	309	65531.....	310	65708.....	312	660088.....	520	66637.....	315	67634.....	315
65445.....	309	65532.....	310	65721.....	307	66009.....	362	66638.....	315	67635.....	315
65446.....	309	655320.....	120	65770.....	302	66010.....	362	66653.....	315	67636.....	315
65447.....	309	655320C.....	127	65770API.....	303	66011.....	362	66654.....	315	67637.....	315
65448.....	309	65533.....	310	65770H.....	302	66012.....	362	66655.....	315	67638.....	315
65449.....	309	65534.....	310	65771.....	302	66013.....	362	66656.....	315	67653.....	315
65450.....	309	65535.....	310	65771API.....	303	66-015.....	357	66657.....	315	67654.....	315
65451.....	309	65537.....	310	65771H.....	302	66-015.....	362	66658.....	315	67655.....	315
65452.....	309	65538.....	310	65772.....	302	660212.....	520	66670.....	315	67656.....	315
65453.....	309	65539.....	310	65772API.....	303	660216.....	520	66671.....	315	67657.....	315
65454.....	309	65540.....	310	65772H.....	302	660224.....	520	66672.....	315	67658.....	315
65456.....	309	65541.....	310	65773.....	302	66024.....	520	66700.....	314	67669.....	315
65457.....	309	65542.....	310	65773API.....	303	66025.....	520	66701.....	314	67670.....	315



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
67671.....	315	6802NWO16.....	521	680808C.....	128	6902NWO1616...	523	69167.....	316	70021212.....	528
67672.....	315	6802NWO1612...	521	6809NWO1212...	522	6902NWO42.....	523	69168.....	316	70021216.....	528
67700.....	314	6802NWO1620..	521	6809NWO44.....	522	6902NWO44.....	523	69181.....	316	70021616.....	528
67701.....	314	6802NWO2.....	521	6809NWO66.....	522	6902NWO46.....	523	69182.....	316	700242.....	528
67702.....	314	6802NWO20.....	521	6809NWO88.....	522	6902NWO64.....	523	69183.....	316	700244.....	528
67703.....	314	6802NWO2016..	521	681006.....	121	6902NWO66.....	523	69184.....	316	700246.....	528
67704.....	314	6802NWO24.....	521	681006C.....	128	6902NWO68.....	523	69185.....	316	700248.....	528
67705.....	314	6802NWO32.....	521	681008.....	121	6902NWO84.....	523	69186.....	316	700264.....	528
67707.....	314	6802NWO4.....	521	681008C.....	128	6902NWO86.....	523	69187.....	316	700266.....	528
67708.....	314	6802NWO46.....	521	681208.....	121	6902NWO88.....	523	69188.....	316	700268.....	528
67709.....	314	6802NWO6.....	521	681208C.....	128	690302.....	122	69252.....	316	7002812.....	528
67711.....	314	6802NWO68.....	521	681212.....	121	690402.....	122	69253.....	316	700286.....	528
67712.....	314	6802NWO8.....	521	6815NWO1010...	522	690402S.....	122	69254.....	316	700288.....	528
67713.....	314	6802NWO810....	521	6815NWO1212...	522	690402SC.....	128	69255.....	316	700402.....	123
67760.....	315	6802NWO812....	521	6815NWO44.....	522	690404.....	122	69256.....	316	700402SC.....	128
67761.....	315	6802NWO86.....	521	6815NWO66.....	522	690404S.....	122	69257.....	316	700404.....	123
67762.....	315	680302.....	121	6815NWO88.....	522	690404SC.....	128	69258.....	316	700404S.....	123
67763.....	315	6803NWO10.....	521	685301C.....	128	690406.....	122	69411.....	316	700404SC.....	128
67764.....	315	6803NWO12.....	521	685302C.....	128	690406S.....	122	69412.....	316	700406.....	123
67765.....	315	6803NWO16.....	521	685304C.....	128	690406SC.....	128	69413.....	316	700406SC.....	128
67766.....	315	6803NWO4.....	521	685320.....	121	690602.....	122	69414.....	316	70051018.....	529
67767.....	315	6803NWO6.....	521	685321.....	121	690602S.....	122	69415.....	316	70051020.....	529
67768.....	315	6803NWO8.....	521	685322.....	121	690602SC.....	128	69416.....	316	70051022.....	529
67769.....	315	680402.....	121	6900O1012.....	522	690604.....	122	69417.....	316	70051222.....	529
67770.....	315	680402C.....	128	6900O104.....	522	690604S.....	122	69418.....	316	7005410.....	529
67771.....	315	680404.....	121	6900O106.....	522	690604SC.....	128	69432.....	317	7005412.....	529
67772.....	315	680404C.....	128	6900O108.....	522	690606.....	122	69434.....	317	7005414.....	529
67773.....	315	680406.....	121	6900O1212.....	522	690606S.....	122	69435.....	317	7005418.....	529
67774.....	315	680406C.....	128	6900O128.....	522	690606SC.....	128	69438.....	317	7005512.....	529
67775.....	315	680421.....	121	6900O1612.....	522	690608.....	122	69441.....	317	7005514.....	529
67776.....	315	6804NWO10.....	520	6900O1616.....	522	690608S.....	122	69442.....	317	7005514.....	529
67777.....	315	6804NWO12.....	520	6900O42.....	522	690608SC.....	128	69471.....	317	7005516.....	529
67778.....	315	6804NWO16.....	520	6900O44.....	522	690804.....	122	69472.....	317	7005518.....	529
6801NW068.....	521	6804NWO4.....	520	6900O46.....	522	690804S.....	122	69473.....	317	7005816.....	529
6801NWO10.....	521	6804NWO6.....	520	6900O48.....	522	690804SC.....	128	69474.....	317	7005818.....	529
6801NWO1016....	521	6804NWO8.....	520	6900O64.....	522	690806.....	122	69475.....	317	7005822.....	529
6801NWO106.....	521	6805NWO108....	521	6900O66.....	522	690806S.....	122	69476.....	317	700602.....	123
6801NWO108.....	521	6805NWO1212...	521	6900O68.....	522	690806SC.....	128	69477.....	317	700602C.....	128
6801NWO12.....	521	6805NWO128....	521	6900O812.....	522	690808.....	122	69478.....	317	700604.....	123
6801NWO1210....	521	6805NWO1616...	521	6900O84.....	522	690808S.....	122	695302.....	122	700604SC.....	128
6801NWO1216....	521	6805NWO2020..	521	6900O86.....	522	690808SC.....	128	695322.....	122	700606.....	123
6801NWO128....	521	6805NWO2424..	521	6900O88.....	522	691006.....	122	695322S.....	122	700606SC.....	128
6801NWO16.....	521	6805NWO42.....	521	6901NWO104....	523	691006S.....	122	695322SC.....	128	700608SC.....	128
6801NWO1612....	521	6805NWO44.....	521	6901NWO106....	523	691006SC.....	128	69600.....	317	700804C.....	128
6801NWO1620...	521	6805NWO64.....	521	6901NWO108....	523	691008.....	122	69601.....	317	700806.....	123
6801NWO20.....	521	6805NWO66.....	521	6901NWO1212...	523	691008S.....	122	69602.....	317	700806SC.....	128
6801NWO2016...	521	6805NWO86.....	521	6901NWO126....	523	691008SC.....	128	69603.....	317	700808.....	123
6801NWO2024..	521	6805NWO88.....	521	6901NWO128....	523	69101.....	316	69604.....	317	700808SC.....	128
6801NWO24.....	521	680602.....	121	6901NWO1612...	523	69102.....	316	69605.....	317	7022108.....	529
6801NWO32.....	521	680602C.....	128	6901NWO1616...	523	69103.....	316	69606.....	317	70221212.....	529
6801NWO4.....	521	680604.....	121	6901NWO2016..	523	69104.....	316	69607.....	317	70221616.....	529
6801NWO46.....	521	680604C.....	128	6901NWO2020..	523	69105.....	316	69608.....	317	702242.....	529
6801NWO48.....	521	680606.....	121	6901NWO2424..	523	69106.....	316	70001012.....	527	702244.....	529
6801NWO6.....	521	680606C.....	128	6901NWO3232..	523	69107.....	316	7000108.....	527	702266.....	529
6801NWO612....	521	680608.....	121	6901NWO42.....	523	69108.....	316	70001212.....	527	702288.....	529
6801NWO64.....	521	680608C.....	128	6901NWO44.....	523	691208.....	122	7000128.....	527	70251022.....	530
6801NWO8.....	521	6806NWO1212...	522	6901NWO64.....	523	691208S.....	122	70001616.....	527	70251227.....	530
6801NWO810....	521	6806NWO1616...	522	6901NWO66.....	523	691208SC.....	128	700042.....	527	70251633.....	530
6801NWO812....	521	6806NWO44.....	522	6901NWO68.....	523	691212.....	122	700044.....	527	7025410.....	530
6801NWO816....	521	6806NWO66.....	522	6901NWO812....	523	691212S.....	122	700064.....	527	7025412.....	530
6801NWO86.....	521	6806NWO88.....	522	6901NWO84.....	523	69161.....	316	700066.....	527	7025512.....	530
6802NWO10.....	521	680804.....	121	6901NWO86.....	523	69162.....	316	700068.....	527	7025614.....	530
6802NWO1012....	521	680804C.....	128	6901NWO88.....	523	69163.....	316	7000812.....	527	7025616.....	530
6802NWO108....	521	680806.....	121	6902NWO108....	523	69164.....	316	700086.....	527	7025816.....	530
6802NWO12.....	521	680806C.....	128	6902NWO1212...	523	69165.....	316	700088.....	527	70421212.....	529
6802NWO1216...	521	680808.....	121	6902NWO128....	523	69166.....	316	7002108.....	528	70421616.....	529

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
704222.....	529	720402.....	124	73038.....	363	73674.....	361	74254.....	528	77161.....	325
704242.....	529	720402S.....	125	73039.....	363	73951.....	27	74258.....	528	77162.....	325
704244.....	529	720402SC.....	129	73040.....	363	73951.....	282	746436.....	172	77163.....	325
704266.....	529	720404.....	124	73041.....	363	73952.....	27	746437.....	172	77164.....	325
704288.....	529	720404S.....	125	73043.....	364	73952.....	282	746438.....	172	77165.....	325
70451227.....	530	720404SC.....	129	73044.....	364	73953.....	27	746439.....	172	77166.....	325
70451633.....	530	720406SC.....	129	73045.....	364	73953.....	282	746440.....	172	77167.....	325
7045210.....	530	7205NWO1018....	530	73046.....	364	73954.....	27	746446.....	172	77168.....	325
7045412.....	530	7205NWO410....	530	73047.....	364	73954.....	282	746456.....	172	77169.....	325
7045414.....	530	7205NWO412....	530	73048.....	364	73955.....	27	746457.....	172	77170.....	325
7045612.....	530	7205NWO414....	530	73049.....	364	73955.....	282	746466.....	172	77177.....	325
7045616.....	530	7205NWO512....	530	73050.....	364	73956.....	27	746506.....	172	77178.....	325
7045618.....	530	7205NWO614....	530	73051.....	364	73956.....	282	746536.....	172	77179.....	325
7045816.....	530	7205NWO616....	530	73063.....	363	73957.....	27	746537.....	172	77180.....	325
7045818.....	530	7205NWO816....	530	73064.....	363	73957.....	282	746538.....	172	77181.....	325
7045822.....	530	7205NWO818....	530	73065.....	363	73958.....	27	746546.....	172	77182.....	325
705302C.....	128	7205NWO822....	530	73066.....	363	73958.....	282	746556.....	172	77183.....	325
705304C.....	128	720602S.....	125	73067.....	363	73959.....	27	746566.....	172	77184.....	325
710402.....	123	720604.....	124	73068.....	363	73959.....	282	746567.....	172	77185.....	325
710402S.....	124	72060404.....	124	73070.....	363	73960.....	27	75201010.....	527	77201.....	325
710402SC.....	129	720604S.....	125	73200N5.....	439	73960.....	282	75201212.....	527	77202.....	325
710404.....	123	720604SC.....	129	73203B.....	440	73961.....	282	752022.....	527	77203.....	325
710404S.....	124	720606.....	124	73203B1.....	440	73970.....	27	752044.....	527	77204.....	325
710404SC.....	129	720606S.....	125	73203B5.....	440	73970.....	283	752066.....	527	77205.....	325
71040604.....	123	720606SC.....	129	73203G.....	440	73971.....	27	752088.....	527	77206.....	325
710604.....	123	720608C.....	129	73203N1.....	439	73971.....	283	770402.....	125	77207.....	325
71060404.....	123	720804.....	124	73203N5.....	439	73972.....	27	770402C.....	129	77208.....	325
71060406.....	123	720804C.....	129	73203R.....	440	73972.....	283	770404.....	125	77209.....	325
710604S.....	124	720804S.....	125	73203R1.....	440	73973.....	27	770404C.....	129	77210.....	325
710604SC.....	129	720806.....	124	73203R5.....	440	73973.....	283	770604.....	125	77219.....	325
710606.....	123	720806S.....	125	73204B.....	440	73974.....	27	770604C.....	129	77220.....	325
710606S.....	124	720806SC.....	129	73204N5.....	439	73974.....	283	770806C.....	129	77222.....	325
710606SC.....	129	720808.....	124	73205B.....	440	73975.....	27	77100.....	324	77223.....	325
710608.....	123	720808S.....	125	73205B5.....	440	73975.....	283	771004C.....	129	77224.....	325
710608SC.....	129	720808SC.....	129	73206B.....	440	73976.....	27	77101.....	324	77225.....	325
710804C.....	129	721006C.....	129	73206B1.....	440	73976.....	283	77102.....	324	77226.....	325
710804S.....	124	72100808.....	124	73206B5.....	440	73977.....	27	77104.....	324	77238.....	326
710806.....	123	721008C.....	129	73206N1.....	439	73977.....	283	77107.....	324	77240.....	326
710806S.....	124	724010.....	528	73206N5.....	439	73979.....	27	77108.....	324	77241.....	326
710806SC.....	129	724012.....	528	73206R.....	440	73979.....	283	77110.....	324	77242.....	326
710808C.....	129	724016.....	528	73206R5.....	440	73980.....	27	77113.....	324	77244.....	326
710808S.....	124	72404.....	528	73207B.....	440	73980.....	283	77114.....	324	77252.....	326
715301C.....	129	72406.....	528	73207B5.....	440	73981.....	27	77116.....	324	77253.....	326
715302C.....	129	72408.....	528	73207N5.....	439	73981.....	283	77124.....	324	77254.....	326
715304C.....	129	725301C.....	129	73208B.....	440	73982.....	27	77125.....	324	77255.....	326
72001212.....	527	725302C.....	129	73230B.....	441	73982.....	283	77126.....	324	77256.....	326
720042.....	527	725304C.....	129	73231B.....	441	73983.....	361	77127.....	324	77258.....	326
720044.....	527	73003.....	363	73232B.....	441	73984.....	361	77128.....	324	77262.....	326
720064.....	527	73004.....	363	73232N5.....	441	73985.....	361	77129.....	324	77263.....	326
720066.....	527	73005.....	363	73233B.....	441	73986.....	361	77130.....	324	77265.....	326
720068.....	527	73006.....	363	73238B.....	441	73987.....	361	77131.....	324	77267.....	326
720086.....	527	73007.....	363	73238U.....	441	7420108.....	527	77132.....	324	77268.....	326
720088.....	527	73008.....	363	73341B.....	438	74201212.....	527	77139.....	324	77269.....	326
7202NWO108....	528	73009.....	363	73341R.....	438	7420128.....	527	77140.....	324	77270.....	326
7202NWO1212...	528	73010.....	363	73341U.....	438	74201612.....	527	77141.....	324	77271.....	326
7202NWO1216...	528	73011.....	363	73343B.....	438	74201616.....	527	77142.....	324	77272.....	326
7202NWO1616...	528	73023.....	363	73343R.....	438	742022.....	527	77143.....	324	77273.....	326
7202NWO42.....	528	73024.....	363	73343U.....	438	742042.....	527	77144.....	324	77275.....	326
7202NWO44.....	528	73025.....	363	73345B.....	438	742064.....	527	77145.....	324	77276.....	326
7202NWO64.....	528	73026.....	363	73345R.....	438	742066.....	527	77154.....	324	77277.....	326
7202NWO66.....	528	73027.....	363	73345U.....	438	742086.....	527	77155.....	324	77280.....	326
7202NWO68.....	528	73028.....	363	73346R.....	438	742088.....	527	77156.....	324	77291.....	326
7202NWO812....	528	73033.....	363	73670.....	361	742510.....	528	77157.....	324	77292.....	326
7202NWO86.....	528	73035.....	363	73671.....	361	742512.....	528	77158.....	324	77293.....	326
7202NWO88.....	528	73036.....	363	73672.....	361	742516.....	528	77159.....	324	77294.....	326
720302.....	124	73037.....	363	73673.....	361	74252.....	528	77160.....	324	77295.....	326

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
77296.....	326	77463.....	328	80068.....	470	830808.....	125	843461.....	426	8555H26.....	530
77297.....	326	77464.....	328	80069.....	470	8401088.....	422	843475.....	426	8555H30.....	530
77298.....	326	77467.....	329	80080.....	470	840131.....	422	843525.....	426	8555P10.....	530
77300.....	326	77468.....	329	80081.....	470	840150.....	422	843588.....	426	8555P12.....	530
77303.....	327	77470.....	329	80100.....	470	840175.....	422	844213.....	425	8555P14.....	530
77306.....	327	77473.....	329	80101.....	470	840188.....	422	844225.....	425	8555P16.....	530
77307.....	327	77481.....	329	80102.....	470	840200.....	422	844238.....	425	8555P18.....	530
77308.....	327	77483.....	329	80103.....	470	840225.....	422	844250.....	425	8555P20.....	530
77309.....	327	77485.....	329	80104.....	470	840238.....	422	844263.....	425	8555P22.....	530
77311.....	327	77486.....	329	80105.....	470	840250.....	422	844275.....	425	8555P26.....	530
77312.....	327	77488.....	329	80201.....	470	840256.....	422	844300.....	425	8555P30.....	530
77314.....	327	77489.....	329	80202.....	470	840263.....	422	844306.....	425	86001.....	449
77315.....	327	77490.....	329	80203.....	470	840275.....	422	844313.....	425	86002.....	449
77318.....	327	77493.....	329	80204.....	470	840288.....	422	844325.....	425	86005.....	449
77322.....	327	77496.....	329	80205.....	470	840300.....	422	844338.....	425	86006.....	449
77331.....	327	77498.....	329	80206.....	470	840312.....	422	844350.....	425	86012.....	449
77333.....	327	77499.....	329	80207.....	470	840325.....	422	844356.....	425	86013.....	449
77334.....	327	77501.....	329	80208.....	470	840350.....	422	844363.....	425	86017.....	449
77335.....	327	77504.....	329	80209.....	470	840375.....	422	844375.....	425	86018.....	449
77336.....	327	77506.....	329	80301.....	469	840382.....	422	844406.....	425	86020.....	449
77337.....	327	77507.....	329	80302.....	469	840400.....	422	844413.....	425	86022.....	449
77341.....	328	77508.....	329	80303.....	469	840425.....	422	844425.....	425	86030.....	448
77343.....	328	77514.....	329	80304.....	469	840450.....	422	844456.....	425	86030RG.....	449
77345.....	328	77518.....	329	80305.....	469	840475.....	422	844500.....	425	86030SS.....	448
77346.....	328	77519.....	329	80306.....	469	840500.....	422	844525.....	425	86031.....	448
77347.....	328	77522.....	329	80307.....	469	840525.....	422	844600.....	425	86031RG.....	449
77349.....	328	77523.....	329	80331.....	469	840550.....	422	844625.....	425	86031SS.....	448
77352.....	326	77543.....	329	80332.....	469	840575.....	422	845200.....	430	86032.....	448
77354.....	326	77547.....	329	80333.....	469	840600.....	422	845300.....	430	86035.....	448
77355.....	326	77548.....	329	80334.....	469	840625.....	422	845350.....	430	86035RG.....	449
77357.....	326	77549.....	329	80335.....	469	840650.....	422	845400.....	430	86035SS.....	448
77358.....	326	77606LF.....	328	80336.....	469	840675.....	422	845500.....	430	86036.....	448
77359.....	326	77607LF.....	328	80463.....	470	840700.....	422	845-500SS.....	430	86036RG.....	449
77360.....	326	77608LF.....	328	80501.....	469	840750.....	422	845600.....	430	86036SS.....	448
77361.....	326	780212.....	528	80502.....	469	840800.....	422	846200.....	430	86037.....	448
77363.....	326	780216.....	528	80503.....	469	840850.....	422	846250.....	430	86040.....	448
77365.....	326	78024.....	528	80504.....	469	840888.....	422	846275.....	430	860402.....	125
77393.....	327	78026.....	528	80505.....	469	841004.....	429	846300.....	430	860402C.....	130
77394.....	327	78028.....	528	80506.....	469	841005.....	429	846350.....	430	860404.....	125
77395.....	327	782512.....	528	80511.....	469	841040.....	429	846400.....	430	860404C.....	130
77398.....	327	782516.....	528	80512.....	469	841045.....	429	846500.....	430	86040SS.....	448
77401.....	327	78252.....	528	80513.....	469	841050.....	429	847200.....	430	86041.....	448
77402.....	328	78254.....	528	80514.....	469	841175.....	429	847250.....	430	86041SS.....	448
77406.....	328	78256.....	528	80515.....	469	841200.....	429	847275.....	430	86042.....	448
77410.....	328	78258.....	528	80516.....	469	841250.....	429	847300.....	430	86045.....	448
77413.....	328	80001.....	469	80601.....	470	841300.....	429	847350.....	430	86045SS.....	448
77419.....	328	80002.....	469	80602.....	470	841350.....	429	847400.....	430	86046.....	448
77420.....	328	80003.....	469	80603.....	470	841400.....	429	847500.....	430	86046SS.....	448
77423.....	328	80004.....	469	80604.....	470	841450.....	429	847600.....	430	86047.....	448
77424.....	328	80005.....	469	80605.....	470	841500.....	429	848200.....	430	860604.....	125
77429.....	328	80006.....	469	80606.....	470	842010.....	426	848225.....	430	860604C.....	130
77430.....	328	80007.....	469	80611.....	470	842012.....	426	848250.....	430	860606.....	125
77431.....	328	80020.....	469	80612.....	470	842016.....	426	848275.....	430	860606C.....	130
77432.....	328	80031.....	469	80613.....	470	842020.....	426	848300.....	430	860806C.....	130
77433.....	328	80032.....	469	80614.....	470	842024.....	426	848350.....	430	860808.....	125
77434.....	328	80033.....	469	80615.....	470	842200.....	426	848400.....	430	860808C.....	130
77435.....	328	80034.....	469	80616.....	470	842250.....	426	848500.....	430	865304C.....	130
77436.....	328	80035.....	469	820400.....	125	842300.....	426	848600.....	430	87001.....	461
77437.....	328	80036.....	469	820400C.....	130	842350.....	426	848700.....	430	87002.....	461
77453.....	328	80061.....	470	820600.....	125	842400.....	426	8555H10.....	530	87003.....	461
77454.....	328	80062.....	470	820600C.....	130	842450.....	426	8555H12.....	530	87004.....	461
77455LF.....	328	80063.....	470	820800.....	125	842500.....	426	8555H14.....	530	87008.....	461
77456LF.....	328	80064.....	470	820800C.....	130	843321.....	426	8555H16.....	530	87009.....	461
77457LF.....	328	80065.....	470	821000.....	125	843382.....	426	8555H18.....	530	87020.....	461
77461.....	328	80066.....	470	821000C.....	130	843388.....	426	8555H20.....	530	87021.....	461
77462.....	328	80067.....	470	825320C.....	130	843450.....	426	8555H22.....	530	87023.....	461

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
88024.....	434	90120.....	319	920416.....	174	923196.....	173	940138.....	204	940301.....	224
88028.....	434	90121.....	319	920420.....	174	923209.....	172	940139.....	204	940302.....	224
88032.....	434	90122.....	319	920430.....	174	923212.....	172	940140.....	204	940325.....	225
88038.....	434	90123.....	319	920436.....	174	923216.....	172	940142LF.....	183	940326.....	225
880402C.....	130	90124.....	319	920448.....	174	923220.....	172	940143LF.....	183	940327.....	225
880404C.....	130	90125.....	319	92102.....	319	923509.....	172	940144LF.....	183	940328.....	225
880406C.....	130	90126.....	319	92107.....	319	923512.....	172	940145LF.....	183	940329.....	225
88050.....	434	90127.....	319	92108.....	319	923520.....	172	940146LF.....	183	940330.....	225
88056.....	434	90128.....	319	92109.....	319	923648.....	173	940147LF.....	183	940331.....	225
88065.....	434	90129.....	319	92110.....	319	923660.....	173	940171.....	186	940332.....	225
88075.....	434	90130.....	319	92111.....	319	923672.....	173	940171L.....	187	940333.....	225
88085.....	434	90131.....	319	92114.....	319	923684.....	173	940171LF.....	181	940334.....	225
88095.....	434	90132.....	319	92115.....	319	923936.....	173	940171T.....	187	940335.....	225
88112.....	434	90133.....	319	92116.....	319	923948.....	173	940172.....	186	940336.....	225
89024.....	434	90140.....	319	92119.....	319	923960.....	173	940172L.....	187	940352.....	207
89028.....	434	90141.....	319	92120.....	319	923972.....	173	940172LF.....	181	940352LF.....	183
89032.....	434	90150.....	319	921209.....	174	924115.....	173	940172T.....	187	940353.....	207
89038.....	434	90152.....	319	92121.....	319	924118.....	173	940173.....	186	940353LF.....	183
89044.....	434	90212.....	318	921212.....	174	924124.....	173	940173L.....	187	940354.....	207
89050.....	434	90213.....	318	921216.....	174	924248.....	173	940173LF.....	181	940354LF.....	183
89056.....	434	90215.....	318	92122.....	319	924260.....	173	940173T.....	187	940355.....	207
89065.....	434	90500.....	178	921220.....	174	924272.....	173	940174.....	186	940355LF.....	183
89075.....	434	9050004.....	177	92123.....	319	924284.....	173	940174L.....	187	940356.....	207
89085.....	434	9050005.....	177	92128.....	319	924297.....	173	940174LF.....	181	940356LF.....	183
89095.....	434	9050006.....	177	921509.....	174	93001.....	318	940174T.....	187	940357.....	207
89112.....	434	905001.....	178	921512.....	174	93008.....	434	940175.....	186	940357LF.....	183
899000.....	224	905021.....	178	921516.....	174	93009.....	434	940175L.....	187	940358.....	207
899001.....	224	905022.....	178	921520.....	174	93011.....	434	940175LF.....	181	940359.....	207
899002.....	224	905023.....	178	922009.....	173	93013.....	434	940176.....	186	940360.....	207
899003.....	224	905024.....	178	922012.....	172	93014.....	434	940176L.....	187	940362LF.....	183
899004.....	224	905025.....	178	922012.....	173	93016.....	434	940176LF.....	181	940363LF.....	183
899005.....	224	905026.....	178	922016.....	172	93017.....	434	940177.....	186	940364LF.....	183
899050.....	224	905031.....	178	922020.....	172	93113.....	318	940177L.....	187	940365LF.....	183
899051.....	224	905032.....	178	922024.....	173	93121.....	318	940177LF.....	181	940366LF.....	183
899052.....	224	905033.....	178	922030.....	172	93122.....	318	940178.....	186	940367LF.....	183
899053.....	224	905034.....	178	922030.....	173	93123.....	318	940178L.....	187	940403LF.....	184
899054.....	224	905035.....	178	922036.....	172	93124.....	318	940178LF.....	181	940404LF.....	184
899055.....	224	905036.....	178	922036.....	173	93125.....	318	940179.....	186	940405LF.....	184
90001.....	318	90507.....	177	922048.....	173	93127.....	318	940179LF.....	181	940406LF.....	184
90002.....	318	90590.....	176	922060.....	173	93128.....	318	940180.....	186	940407LF.....	184
90003.....	318	90593.....	176	922072.....	173	93129.....	318	940180LF.....	181	940408LF.....	184
90004.....	318	91007.....	318	922096.....	173	93130.....	318	940181.....	186	940409LF.....	184
90005.....	318	91008.....	318	922112.....	172	93131.....	318	940181LF.....	181	940410LF.....	184
90006.....	318	91009.....	318	922116.....	172	93139.....	318	940212LF.....	182	940411LF.....	184
90007.....	318	91010.....	318	922120.....	172	93212.....	318	940213LF.....	182	940461.....	202
90008.....	318	91011.....	318	922130.....	172	935044LF.....	169	940214LF.....	182	940462.....	202
90009.....	318	91707.....	442	922136.....	172	935045LF.....	169	940215LF.....	182	940464.....	202
90010.....	318	920012.....	174	922412.....	172	940121.....	202	940216LF.....	182	940465.....	202
90011.....	318	920016.....	174	922416.....	172	940122.....	202	940217LF.....	182	940521.....	206
90100.....	319	920020.....	174	922420.....	172	940123.....	202	940281.....	224	940522.....	206
90102.....	319	920030.....	174	922430.....	172	940130.....	204	940282.....	224	940523.....	206
90103.....	319	920036.....	174	922436.....	172	940130LF.....	183	940284.....	224	940523LF.....	183
90104.....	319	92010.....	434	922712.....	173	940131.....	204	940285.....	224	940524.....	206
90105.....	319	92011.....	434	922718.....	173	940131LF.....	183	940286.....	224	940525.....	206
90106.....	319	920112.....	174	922724.....	173	940132.....	204	940287.....	224	940526.....	206
90107.....	319	920116.....	174	922812.....	173	940132LF.....	183	940288.....	224	940527.....	206
90108.....	319	92012.....	434	922818.....	173	940133.....	204	940289.....	224	940528.....	206
90109.....	319	920120.....	174	922824.....	173	940133LF.....	183	940291.....	224	940529.....	206
90110.....	319	92013.....	434	922912.....	173	940134.....	204	940292.....	224	940530.....	206
90111.....	319	920130.....	174	922918.....	173	940134LF.....	183	940294.....	224	940800.....	458
90114.....	319	920136.....	174	922924.....	173	940135.....	204	940295.....	224	940801.....	458
90115.....	319	92014.....	434	923112.....	173	940135LF.....	183	940296.....	224	940803.....	458
90116.....	319	92015.....	434	923124.....	173	940136.....	204	940297.....	224	940804.....	458
90117.....	319	92016.....	434	923136.....	173	940136LF.....	183	940298.....	224	940805.....	458
90118.....	319	92017.....	434	923148.....	173	940137.....	204	940299.....	224	940806.....	458
90119.....	319	920412.....	174	923161.....	173	940137LF.....	183	940300.....	224	940810.....	459

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
940811	459	942171	203	944401	209	947133	203	949124	220	949472	217
940812	459	942208	190	944402	209	947134	203	949125	220	949473	217
940813	459	942209	190	944402V	209	947140	208	949126	220	949474	217
940814	459	942210	190	944403	209	947141	208	949127	220	949475	217
940815	459	943200	190	944403V	209	947142	208	949128	220	949481	218
940822	459	943201	190	944404	209	947143	208	949161	212	949482	218
940823	459	943202	190	944404V	209	947144	208	949162	212	949483	218
940824	459	943203	190	944405	209	947145	208	949163	212	949484	218
940825	459	943204	190	944405V	209	948101	192	949164	212	949485	218
940826	459	943205	190	944406	209	948102	192	949165	212	949486	218
940827	459	943206	190	944406V	209	948103	192	949166	212	949487	218
940840	459	943207	190	944407	209	948104	192	949167	212	949488	218
940841	459	943212	197	944407V	209	948105	192	949168	212	949521	219
940842	459	943213	197	944408	209	948106	192	949170	212	949522	219
940843	459	943233LF	182	944408V	209	948107	192	949171	210	949523	219
940844	459	943234LF	182	944409	209	948108	192	949172	210	949524	219
940845	459	943235LF	182	944409V	209	948131	196	949173	210	949525	219
940846	459	943236LF	182	944410	209	948132	196	949174	210	949526	219
940847	459	943237LF	182	944410V	209	948133	196	949175	210	949527	219
940848	459	943284	203	944411	209	948134	196	949176	210	949528	219
941121NP	189	943287	203	944411V	209	948135	196	949177	210	950812	527
941122NP	189	943311	197	944428	208	948141	196	949178	210	95082	527
941123NP	189	943312	197	944429	208	948142	196	949180	212	95084	527
941124NP	189	943313	197	944430	208	948143	196	949253	219	95086	527
941125NP	189	943331	197	944430LF	183	948144	196	949254	219	95088	527
941126NP	189	943332	197	944431	208	948170	191	949255	219	9522H12	529
941127NP	189	943342	197	944431LF	183	948170L	194	949256	219	9522H16	529
941128NP	189	943343	197	944432	208	948170T	193	949257	219	9522H2	529
941133	205	943344	197	944432LF	183	948171	191	949258	219	9522H4	529
941134	205	943345	197	944433	208	948171L	194	949303	219	9522H6	529
941135	205	943347	197	944433LF	183	948171T	193	949304	219	9522H8	529
941136	205	943348	197	944434	208	948172	191	949305	219	9522P12	529
941137	205	943350	197	944434LF	183	948172L	194	949306	219	9522P16	529
941138	205	943351	197	944435LF	183	948172T	193	949307	219	9522P2	529
941140	205	943612LF	181	945601LF	185	948173	191	949308	219	9522P4	529
941141	205	943613LF	181	945602LF	185	948173L	194	949353	219	9522P6	529
941151LF	180	943614LF	181	945603LF	185	948173T	193	949354	219	9522P8	529
941151NP	188	943615LF	181	945604LF	185	948174	191	949355	219	95300	435
941152LF	180	943616LF	181	945605LF	185	948174L	194	949356	219	95301	435
941152NP	188	943617LF	181	945606LF	185	948174T	193	949357	219	95302	435
941153LF	180	944100	201	945611LF	185	948175	191	949358	219	95303	435
941153NP	188	944101	201	945612LF	185	948175L	194	949401	216	95304	435
941154LF	180	944102	201	945613LF	185	948176	191	949402	216	95305	435
941154NP	188	944103	201	945614LF	185	948176L	194	949403	216	95306	435
941155LF	180	944106	201	945615LF	185	948176T	193	949404	216	95307	435
941155NP	188	944107	201	945616LF	185	948177	191	949405	216	95308	435
941156LF	180	944109	201	945621LF	185	948177L	194	949406	216	95309	435
941156NP	188	944110	201	945622LF	185	949101	211	949407	216	95310	435
941157LF	180	944112	201	945623LF	185	949102	211	949408	216	95311	435
941157NP	188	944113	201	945631LF	185	949103	211	949430	215	95312	435
941158LF	180	944116	201	945632LF	185	949104	211	949431	215	95313	435
941158NP	188	944117	201	945633LF	185	949105	211	949432	215	95314	435
941159LF	180	944128	201	945640LF	185	949106	211	949441	218	95315	435
941160LF	180	944130	201	945650LF	185	949107	211	949442	218	95316	435
941161LF	180	944132	201	945651LF	185	949108	211	949443	218	95317	435
941163LF	180	944134	201	945652LF	185	949111	221	949444	218	95318	435
941164LF	180	944134LF	162	947055	203	949112	221	949445	218	95319	435
941165LF	180	944134LF	201	947055LF	203	949113	221	949446	218	95320	435
941166LF	180	944135	201	947103	195	949114	221	949447	218	95321	435
941167LF	180	944136	201	947104	195	949115	221	949448	218	95322	435
941168LF	180	944138	201	947105	195	949116	221	949451	217	95323	435
942100	203	944139	201	947111	195	949117	221	949452	217	95324	435
942101	203	944140	201	947112	195	949118	221	949453	217	95325	435
942102	203	944142	201	947113	195	949121	220	949454	217	95326	435
942142	203	944142LF	162	947125	196	949122	220	949455	217	95327	435
942170	203	944142LF	201	947126	196	949123	220	949471	217	95328	435



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
95329.....	435	9600MJ3.....	235	96304.....	435	9650L5SE.....	227	970310.....	267	973341.....	438
95330.....	435	9600MJ4.....	235	96305.....	435	9650L6.....	227	970311.....	267	973343.....	438
95331.....	435	9600MJ6.....	235	96306.....	435	9650L6SE.....	227	970312.....	267	973567.....	292
95402.....	435	9600MJ8.....	235	96307.....	435	9650L8.....	227	970313.....	267	973568.....	292
95404.....	435	96022.....	434	96308.....	435	9650L812.....	229	970314.....	267	973569.....	292
95406.....	435	96027.....	434	96310.....	435	9650L8SE.....	227	970330.....	267	973600.....	360
95408.....	435	96032.....	434	96312.....	435	9650RP12.....	229	970331.....	267	973601.....	360
95410.....	435	96040.....	434	96314.....	435	9650RP23.....	229	970332.....	267	973602.....	360
95414.....	435	96050.....	434	96316.....	435	9650RP46.....	229	970333.....	267	973603.....	360
95418.....	435	96060.....	434	96318.....	435	9650WH23.....	229	970700.....	267	973604.....	360
95422.....	435	96070.....	434	96320.....	435	9650WH46.....	229	970701.....	267	973605.....	360
95424.....	435	96080.....	434	96322.....	435	9650WH812.....	229	970702.....	267	973606.....	360
95427.....	435	96090.....	434	96323.....	435	9660G10.....	228	970703.....	267	973607.....	360
95432.....	435	96100.....	434	96324.....	435	9660G10SE.....	228	970704.....	267	973620.....	360
95433.....	435	9610F10.....	233	96325.....	435	9660G12.....	228	970705.....	267	973621.....	360
95450.....	490	9610F12.....	233	96326.....	435	9660G12SE.....	228	970706.....	267	973622.....	360
95451.....	490	9610F25.....	233	96327.....	435	9660G2.....	228	970707.....	267	973623.....	360
95452.....	490	9610F3.....	233	96328.....	435	9660G2.5.....	228	972171.....	443	973624.....	360
95504.....	435	9610F4.....	233	96329.....	435	9660G2.5SE.....	228	972172.....	443	973625.....	360
95506.....	435	9610F6.....	233	96330.....	435	9660G2SE.....	228	972173.....	443	973626.....	360
95508.....	435	9610F8.....	233	96331.....	435	9660G3.....	228	972180.....	443	973627.....	360
95510.....	435	9610NYCF10.....	233	96332.....	435	9660G3SE.....	228	972181.....	443	973628.....	360
95512.....	435	9610NYCF12.....	233	96333.....	435	9660G4.....	228	972182.....	443	973650.....	361
95514.....	435	9610NYCF25.....	233	96334.....	435	9660G4SE.....	228	972183.....	443	973651.....	361
95516.....	435	9610NYCF3.....	233	96335.....	435	9660G6.....	228	972184.....	443	973652.....	361
95518.....	435	9610NYCF4.....	233	96336.....	435	9660G6SE.....	228	972185.....	443	973653.....	361
95522.....	435	9610NYCF6.....	233	96337.....	435	9660G8.....	228	972186.....	443	973654.....	361
95523.....	435	9610NYCF8.....	233	96338.....	435	9660G8SE.....	228	972187.....	443	973655.....	361
95524.....	435	96110.....	434	96339.....	435	9660L10.....	228	972190.....	443	973656.....	361
95601.....	491	96120.....	434	96340.....	435	9660L10SE.....	228	972191.....	443	973657.....	361
95602.....	491	96130.....	434	96341.....	435	9660L12.....	228	972192.....	443	973658.....	361
95603.....	491	96140.....	434	96342.....	435	9660L12SE.....	228	972193.....	443	973659.....	361
95604.....	491	96150.....	434	96343.....	435	9660L2.....	228	972194.....	443	973667.....	292
95605.....	491	96160.....	434	96344.....	435	9660L2.5.....	228	972195.....	443	973668.....	292
95606.....	491	962003.....	232	96345.....	435	9660L2SE.....	228	973200.....	439	973669.....	292
95610.....	491	962004.....	232	96346.....	435	9660L3.....	228	973203.....	439	973700.....	359
95611.....	491	962006.....	232	96347.....	435	9660L3SE.....	228	973204.....	439	973701.....	359
95612.....	491	962008.....	232	96348.....	435	9660L4.....	228	973205.....	439	973702.....	359
95613.....	491	962010.....	232	96349.....	435	9660L4SE.....	228	973206.....	439	973703.....	359
95620.....	492	962010LW.....	231	96350.....	435	9660L5.....	228	973207.....	439	973704.....	359
95621.....	492	962010UL.....	231	96351.....	435	9660L5SE.....	228	973208.....	439	973705.....	359
95622.....	492	962012.....	232	96352.....	435	9660L6.....	228	973215.....	442	973706.....	359
95623.....	492	962012LW.....	231	96353.....	435	9660L6SE.....	228	973216.....	442	973707.....	359
95624.....	492	962012UL.....	231	96354.....	435	9660L8.....	228	973217.....	442	973708.....	359
95625.....	492	96203LW.....	231	96355.....	435	9660L8SE.....	228	973219.....	442	973850.....	359
95626.....	492	96203UL.....	231	96356.....	435	970207.....	239	973221.....	442	973851.....	359
95627.....	492	96204LW.....	231	96357.....	435	970208.....	239	973223.....	442	973852.....	359
95628.....	492	96204UL.....	231	96358.....	435	970217.....	239	973224.....	442	973853.....	359
95631.....	475	96206LW.....	231	96359.....	435	970218.....	239	973226.....	441	973854.....	359
95640.....	475	96206UL.....	231	96360.....	435	970227.....	239	973230.....	441	973855.....	359
95641.....	475	96208LW.....	231	96361.....	435	970228.....	239	973231.....	441	973856.....	359
9600FJ10.....	236	96208UL.....	231	96362.....	435	970253.....	239	973232.....	441	973857.....	359
9600FJ12.....	236	963002.....	230	96363.....	435	970254.....	239	973233.....	441	973858.....	359
9600FJ3.....	236	963003.....	230	96364.....	435	970255.....	239	973234.....	441	973859.....	359
9600FJ4.....	236	963004.....	230	96365.....	435	970257.....	239	973238.....	441	973861.....	359
9600FJ6.....	236	963005.....	230	96366.....	435	970258.....	239	973252.....	442	973862.....	359
9600FJ8.....	236	963006.....	230	96367.....	435	970300.....	267	973253.....	442	973863.....	359
9600FL10.....	234	963008.....	230	96368.....	435	970301.....	267	973255.....	442	973864.....	359
9600FL12.....	234	96301.....	435	96369.....	435	970302.....	267	973262.....	442	973865.....	359
9600FL25.....	234	963010.....	230	96370.....	435	970303.....	267	973323.....	441	973866.....	359
9600FL3.....	234	963012.....	230	96371.....	435	970304.....	267	973325.....	441	973867.....	359
9600FL4.....	234	963014.....	230	96372.....	435	970305.....	267	973326.....	441	973868.....	359
9600FL6.....	234	963016.....	230	96373.....	435	970306.....	267	973327.....	441	973869.....	359
9600FL8.....	234	96302.....	435	96374.....	435	970307.....	267	973329.....	441	973870.....	359
9600MJ10.....	235	963025.....	230	96375.....	435	970308.....	267	973332.....	441	973871.....	359
9600MJ12.....	235	96303.....	435	96376.....	435	970309.....	267	973334.....	441	973872.....	359



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
973873	359	973959	27	97873	176	990791	492	BLAY-250	389	CDC-400-B1	356
973874	359	973959	282	97875	176	990792	492	BLAY-300	389	CDC-400-PP	351
973875	359	973960LF	269	97883	176	990793	492	BLAY-300-CASS	389	CDC-400-SS1	353
973876	359	973961LF	269	97883	176	990794	492	BLAY-400	389	CDC-500-A1	347
973877	359	973962LF	269	97885	176	991249	471	BLAY-400-CASS	389	CDC-500-B1	356
973878	359	973963LF	269	97895	176	991250	471	BLAY-600	389	CDC-500-SS1	353
973879	359	973965	268	97903	176	991251	471	BLAY-600-CASS	389	CDC-600-A1	347
973880	359	973965LF	269	97905	176	991259	471	BLOW150-300	375	CDC-600-B1	356
973881	359	973966	268	97913	176	995210	471	BLOW150-400	375	CDC-600-SS1	353
973884	359	973966LF	269	97915	176	995211	471	BRLAYHD-200	390	CDC-800-A1	347
973885	359	973967	268	979215	170	995212	471	BRLAYHD-300	390	CDC-800-SS1	353
973886	359	973967LF	269	97923	176	995213	471	BRLAYHD-400	390	CDCSL-200-A1	398
973887	359	973969LF	269	97925	176	995214	471	BRLAYHD-600	390	CDCSL-200-SS1399	
973888	359	973970LF	269	982107	467	995215	471	BSB-400-187	379	CDCSL-300-A1	398
973890	361	973971LF	269	982107	472	995216	471	BSB-400-250	379	CDCSL-	
973891	361	973975	268	982108	472	995217	471	BSB-450-125	379	300-SS1	399
973892	361	973975LF	269	982109	472	99803	452	BSB-500-187	379	CDCSL-400-A1	398
973893	361	973976	268	982110	472	99804	452	BSB-500-250	379	CDCSL-	
973894	361	973976LF	269	982120	472	99812	451	BSB-600-250	379	400-SS1	399
973895	361	973977	268	982121	472	99816	452	CC-1113	432	CDCSL-600-A1	398
973900	268	973978	268	982122	472	99817	452	CC-1315	432	CDCSL-	
973901	268	973979	268	982125	472	99825	451	CC-1517	432	600-SS1	399
973902	268	973980	268	982126	472	99826	451	CC-1518	432	CDP-050-A1	347
973903	268	973980SS	269	982130	472	99828	452	CC-1720	432	CDP-050-B1	356
973904	268	973981	268	982131	472	99830	452	CC-2023	432	CDP-050-PP	351
973905	268	973982	268	982132	472	99841	451	CC-2225	432	CDP-050-SS1	353
973906	268	973982SS	269	982135	472	99843	451	CC-2327	432	CDP-075-A1	347
973907	268	973985SS	269	982136	472	ANV12F	531	CC-2528	432	CDP-075-B1	356
973908	268	973990	27	982137	472	ANV12M	531	CC-2731	432	CDP-075-PP	351
973909	268	973990	282	982138	472	ANV14F	531	CC-3134	432	CDP-075-SS1	353
973910	268	973991	27	982140	472	ANV14M	531	CC-3437	432	CDP-1000-A	347
973911	268	973991	282	983100	472	ANV1F	531	CC-3740	432	CDP-100-A1	347
973912	268	974264	268	983101	472	ANV1M	531	CCP-1098	433	CDP-100-B1	356
973913	268	974265	268	983110	472	ANV34F	531	CDC-050-A1	347	CDP-100-PP	351
973914	268	974266	268	983111	472	ANV34M	531	CDC-050-B1	356	CDP-100-SS1	353
973925	268	974267	268	983115	472	ANV38F	531	CDC-050-PP	351	CDP-125-A1	347
973925SS	269	97433	176	983116	472	ANV38M	531	CDC-050-SS1	353	CDP-125-B1	356
973926SS	269	97435	176	983120	472	AR2	460	CDC-075-A1	347	CDP-125-PP	351
973927	268	97443	176	983121	472	ARI-300	378	CDC-075-B1	356	CDP-125-SS1	353
973927SS	269	97445	176	983125	472	ARI-400	378	CDC-075-PP	351	CDP-150-A1	347
973928	268	97510	176	983126	472	ARI-600	378	CDC-075-SS1	353	CDP-150-B1	356
973928SS	269	97513	176	983130	472	BC2-075A-DP	364	CDC-1000-A	347	CDP-150-PP	351
973929	268	97535	176	98801	452	BC2-075C-DP	364	CDC-100-A1	347	CDP-150-SS1	353
973930	268	97538	176	98802	452	BC4-100B-DP	364	CDC-100-B1	356	CDP-200-A1	347
973930SS	269	97545	176	98810	451	BC4-125-DP	364	CDC-100-PP	351	CDP-200-B1	356
973947SS	269	97548	176	98811	451	BC4-200A-DP	364	CDC-100-SS1	353	CDP-200-PP	351
973948	268	97550	176	98812	451	BC4-200-DP	364	CDC-125-A1	347	CDP-200-SS1	353
973948SS	269	97553	176	98814	452	BE-300-SP	362	CDC-125-B1	356	CDP-250-A1	347
973949	268	97560	176	98815	452	BG100	358	CDC-125-PP	351	CDP-250-B1	356
973949SS	269	97563	176	98823	451	BG125	358	CDC-125-SS1	353	CDP-250-SS1	353
973951	27	97570	176	98824	451	BG150	358	CDC-150-A1	347	CDP-300-A1	347
973951	282	97573	176	98825	451	BG200	358	CDC-150-B1	356	CDP-300-B1	356
973952	27	97803	176	98828	452	BG250	358	CDC-150-PP	351	CDP-300-PP	351
973952	282	97805	176	98830	452	BG300	358	CDC-150-SS1	353	CDP-300-SS1	353
973953	27	97813	176	98840	451	BG400	358	CDC-200-A1	347	CDP-400-A1	347
973953	282	97815	176	98841	451	BG50	358	CDC-200-B1	356	CDP-400-B1	356
973954	27	97823	176	98842	452	BG500	358	CDC-200-PP	351	CDP-400-PP	351
973954	282	97825	176	990570	442	BG600	358	CDC-200-SS1	353	CDP-400-SS1	353
973955	27	97833	176	990571	442	BG75	358	CDC-250-A1	347	CDP-500-A1	347
973955	282	97835	176	990781	292	BG800	358	CDC-250-B1	356	CDP-500-B1	356
973956	27	97843	176	990782	292	BLAY-100	389	CDC-250-SS1	353	CDP-600-A1	347
973956	282	97845	176	990783	292	BLAY-125	389	CDC-300-A1	347	CDP-600-B1	356
973957	27	97853	176	990784	292	BLAY-150	389	CDC-300-B1	356	CDP-600-SS1	353
973957	282	97855	176	990785	292	BLAY-150-CASS	389	CDC-300-PP	351	CDP-800-A1	347
973958	27	97863	176	990786	292	BLAY-200	389	CDC-300-SS1	353	CDP-800-SS1	353
973958	282	97865	176	990790	492	BLAY-200-CASS	389	CDC-400-A1	347	CF-05101-SS304	407

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page		
CF-05101S-SP.....	403	CF-30314-SP.....	405	CG-200-VI.....	358	CGASV-400-A.....	348	CGC-100-SS1.....	352	CGD-075-A1.....	346
CF-05102-SS304...	407	CF-30314-SS304...	408	CG-250-NBR.....	358	CGB-050-A1.....	346	CGC-125-A1.....	346	CGD-075-B1.....	355
CF-08105-SP.....	403	CF-30315L-SP.....	405	CG-250-VI.....	358	CGB-050-B1.....	355	CGC-125-B1.....	355	CGD-075-PP.....	350
CF-08105-SS304...	407	CF-30315-SP.....	405	CG-300-EPDM...	358	CGB-050-PP.....	350	CGC-125-PP.....	350	CGD-075-SS1.....	352
CF-08106-SS304...	407	CF-30315-SS304...	408	CG-300-NBR.....	358	CGB-050-SS1.....	352	CGC-125-SS1.....	352	CGD-1000-A.....	346
CF-08108-SS304...	407	CF-30400L-SP.....	405	CG-300-VI.....	358	CGB-075-A1.....	346	CGC-150-A1.....	346	CGD-100-A1.....	346
CF-10108-SS304...	407	CF-30400-SP.....	405	CG-400-NBR.....	358	CGB-075-B1.....	355	CGC-150-B1.....	355	CGD-100-B1.....	355
CF-10109-SP.....	403	CF-30400-SS304...	408	CG-400-VI.....	358	CGB-075-PP.....	350	CGC-150CR-A1...	400	CGD-100-PP.....	350
CF-10109-SS304...	407	CF-40409-SP.....	406	CG-500-NBR.....	358	CGB-075-SS1.....	352	CGC-150CR-SS1...	400	CGD-100-SS1.....	352
CF-10110-SP.....	403	CF-40410L-SP.....	406	CG-50-EPDM.....	358	CGB-1000-A.....	346	CGC-150-PP.....	350	CGD-125-A1.....	346
CF-10110-SS304...	407	CF-40410-SP.....	406	CG-600-NBR.....	358	CGB-100-A1.....	346	CGC-150-SS1.....	352	CGD-125-B1.....	355
CF-10111-SP.....	403	CF-40410-SS304...	409	CG-800-NBR.....	358	CGB-100-B1.....	355	CGC-1590-A.....	348	CGD-125-PP.....	350
CF-10111-SS304...	407	CF-40411L-SP.....	406	CGA-050-A1.....	346	CGB-100-PP.....	350	CGC-200-A1.....	346	CGD-125-SS1.....	352
CF-13113-SP.....	403	CF-40411-SP.....	406	CGA-050-B1.....	355	CGB-100-SS1.....	352	CGC-200-B1.....	355	CGD-150-A1.....	346
CF-13114-SP.....	403	CF-40411-SS304...	409	CGA-050-PP.....	350	CGB-125-A1.....	346	CGC-200CR-A1...	400	CGD-150-B1.....	355
CF-13114-SS304...	408	CF-40412L-SP.....	406	CGA-050-SS1.....	352	CGB-125-B1.....	355	CGC-200CR-SS1...	400	CGD-150-PP.....	350
CF-13115-SS304...	408	CF-40412-SP.....	406	CGA-075-A1.....	346	CGB-125-PP.....	350	CGC-200-PP.....	350	CGD-150-SS1.....	352
CF-15115-SP.....	404	CF-40412-SS304...	409	CGA-075-B1.....	355	CGB-125-SS1.....	352	CGC-200-SS1.....	352	CGD-150-A.....	349
CF-15115-SS304...	408	CF-40413L-SP.....	406	CGA-075-PP.....	350	CGB-150-A1.....	346	CGC-2015-A.....	348	CGD-200-A1.....	346
CF-15200-SS304...	408	CF-40413-SP.....	406	CGA-075-SS1.....	352	CGB-150-B1.....	355	CGC-2090-A.....	348	CGD-200-B1.....	355
CF-15201-SP.....	404	CF-40413-SS304...	409	CGA-1000-A.....	346	CGB-150-PP.....	350	CGC-250-A1.....	346	CGD-200-PP.....	350
CF-15201-SS304...	408	CF-40414L-SP.....	406	CGA-100-A1.....	346	CGB-150-SS1.....	352	CGC-250-B1.....	355	CGD-200-SS1.....	352
CF-15202L-SP.....	404	CF-40414-SP.....	406	CGA-100-B1.....	355	CGB-200-A1.....	346	CGC-250CR-A1...	400	CGD-2015-A.....	349
CF-15202-SP.....	404	CF-40414-SS304...	409	CGA-100-PP.....	350	CGB-200-B1.....	355	CGC-250-SS1.....	352	CGD-2090-SS.....	354
CF-15202-SS304...	408	CF-40415L-SP.....	406	CGA-100-SS1.....	352	CGB-200-PP.....	350	CGC-300-A1.....	346	CGD-250-A1.....	346
CF-15203-SP.....	404	CF-40415-SP.....	406	CGA-125-A1.....	346	CGB-200-SS1.....	352	CGC-300-B1.....	355	CGD-250-B1.....	355
CF-15203-SS304...	408	CF-40415-SS304...	409	CGA-125-B1.....	355	CGB-250-A1.....	346	CGC-300CR-A1...	400	CGD-250-SS1.....	352
CF-15204-SS304...	408	CF-40500L-SP..	406	CGA-125-PP.....	350	CGB-250-B1.....	355	CGC-300CR-SS1...	400	CGD-300-A1.....	346
CF-15205-SP.....	404	CF-40500-SP.....	406	CGA-125-SS1.....	352	CGB-250-SS1.....	352	CGC-300-PP.....	350	CGD-300-B1.....	355
CF-15205-SS304...	408	CF-40501L-SP...	406	CGA-150-A1.....	346	CGB-300-A1.....	346	CGC-300-SS1.....	352	CGD-300-PP.....	350
CF-20208-SP.....	404	CF-40501-SP.....	406	CGA-150-B1.....	355	CGB-300-B1.....	355	CGC-3020-A.....	348	CGD-300-SS1.....	352
CF-20208-SS304...	408	CF-60610-SP.....	406	CGA-150-PP.....	350	CGB-300-PP.....	350	CGC-3025-A.....	348	CGD-3020-A.....	349
CF-20209L-SP.....	404	CF-60612-SP.....	406	CGA-150-SS1.....	352	CGB-300-SS1.....	352	CGC-400-A1.....	346	CGD-400-A1.....	346
CF-20209-SP.....	404	CF-60614-SP.....	406	CGA-1520-A.....	348	CGB-400-A1.....	346	CGC-400-B1.....	355	CGD-400-B1.....	355
CF-20209-SS304...	408	CF-60702-SP.....	406	CGA-200-A1.....	346	CGB-400-B1.....	355	CGC-400CR-A1...	400	CGD-400-PP.....	350
CF-20210-SP.....	404	CF-60704-SP.....	406	CGA-200-B1.....	355	CGB-400-PP.....	350	CGC-400CR-SS1...	400	CGD-400-SS1.....	352
CF-20210-SS304...	408	CFT-08104T-		CGA-200-PP.....	350	CGB-400-SS1.....	352	CGC-400-PP.....	350	CGD-4030-A.....	349
CF-20211L-SP....	404	SS304.....	407	CGA-200-SS1.....	352	CGB-500-A1.....	346	CGC-400-SS1.....	352	CGD-500-A1.....	346
CF-20211-SP.....	404	CFT-08106T-SP.....	403	CGA-2015-A.....	348	CGB-500-B1.....	355	CGC-4030-A.....	348	CGD-500-B1.....	355
CF-20211-SS304...	408	CFT-08106T-		CGA-2030-A.....	348	CGB-500-SS1.....	352	CGC-500-A1.....	346	CGD-500-SS1.....	352
CF-20212L-SP....	404	SS304.....	407	CGA-250-A1.....	346	CGB-600-A1.....	346	CGC-500-B1.....	355	CGD-600-A1.....	346
CF-20212-SP.....	404	CFT-08107T-SP.....	403	CGA-250-B1.....	355	CGB-600-B1.....	355	CGC-500-SS1.....	352	CGD-600-B1.....	355
CF-20212-SS304...	408	CFT-08107T-		CGA-250-SS1.....	352	CGB-600-SS1.....	352	CGC-600-A1.....	346	CGD-600-SS1.....	352
CF-20213L-SP.....	404	SS304.....	407	CGA-300-A1.....	346	CGB-800-A1.....	346	CGC-600-B1.....	355	CGD-800-A1.....	346
CF-20213-SP.....	404	CFT-08108T-SP.....	403	CGA-300-B1.....	355	CGB-800-SS1.....	352	CGC-600CR-A1...	400	CGDSL-200-A1.....	398
CF-20213-SS304...	408	CFT-08108T-		CGA-300-PP.....	350	CGBSL-200-A1...	398	CGC-600-SS1.....	352	CGDSL-200-SS1...	399
CF-20214-SP.....	404	SS304.....	407	CGA-300-SS1.....	352	CGBSL-200-SS1399		CGC-800-A1.....	346	CGDSL-300-A1.....	398
CF-20214-SS304...	408	CFT-08109T-SP.....	403	CGA-3020-A.....	348	CGBSL-300-A1...	398	CGC-800CS-A1...	400	CGDSL-300-SS1...	399
CF-20215-SP.....	404	CFT-08109T-		CGA-3040-A.....	348	CGBSL-300-SS1...	399	CGC-800-SS1.....	352	CGDSL-400-A1.....	398
CF-25303L-SP.....	405	SS304.....	407	CGA-3040-A.....	348	CGBSL-400-A1...	398	CGCSL-200CR-A1	398	CGDSL-400-SS1...	399
CF-25303-SP.....	405	CFT-10114T-SP.....	403	CGA-400-A1.....	346	CGBSL-400-SS1...	399	CGCSL-200CR-		CGDSL-600-A1.....	398
CF-30309-SP.....	405	CFT-10115T-SP.....	403	CGA-400-B1.....	355	CGBSL-600-A1...	398	SS1.....	399	CGDSL-600-SS1...	399
CF-30309-SS304...	408	CFT-10117T-SP.....	403	CGA-400-PP.....	350	CGBSL-600-SS1...	399	CGCSL-300CR-A1	398	CGDSV-300-A.....	349
CF-30310L-SP.....	405	CFT-10117T-SS304...	407	CGA-400-SS1.....	352	CGC-050-A1.....	346	CGCSL-300CR-		CGDSV-400-A.....	349
CF-30310-SP.....	405	CFT-10118T-SP....	403	CGA-4030-A.....	348	CGC-050-B1.....	355	SS1.....	399	CGE-050-A1.....	347
CF-30310-SS304...	408	CG-050-VI.....	358	CGA-4030-A.....	348	CGC-050-PP.....	350	CGCSL-400CR-A1	398	CGE-050-B1.....	356
CF-30311L-SP.....	405	CG-075-NBR.....	358	CGA-500-A1.....	346	CGC-050-SS1....	352	CGCSL-400CR-		CGE-050-PP.....	351
CF-30311-SP.....	405	CG-075-VI.....	358	CGA-500-B1.....	355	CGC-075-A1.....	346	SS1.....	399	CGE-050-SS1.....	353
CF-30311-SS304...	408	CG-100-NBR.....	358	CGA-500-SS1.....	352	CGC-075-B1.....	355	CGCSL-600CR-A1	398	CGE-075-A1.....	347
CF-30312L-SP.....	405	CG-100-VI.....	358	CGA-600-A1.....	346	CGC-075-PP.....	350	CGCSL-600CR-A4398		CGE-075-B1.....	356
CF-30312-SP.....	405	CG-125-NBR.....	358	CGA-600-B1.....	355	CGC-075-SS1.....	352	CGCSL-600CR-		CGE-075-PP.....	351
CF-30312-SS304...	408	CG-125-VI.....	358	CGA-600-SS1.....	352	CGC-1000-A.....	346	SS1.....	399	CGE-075-SS1.....	353
CF-30313L-SP.....	405	CG-150-NBR.....	358	CGA-6040-A.....	348	CGC-100-A1.....	346	CGD-050-A1.....	346	CGE-1000-A.....	347
CF-30313-SP.....	405	CG-150-VI.....	358	CGA-800-A1.....	346	CGC-100-B1.....	355	CGD-050-B1.....	355	CGE-100-A1.....	347
CF-30313-SS304...	408	CG-200-EPDM..	358	CGA-800-SS1.....	352	CGC-100CR-SS1...	400	CGD-050-PP.....	350	CGE-100-B1.....	356
CF-30314L-SP.....	405	CG-200-NBR.....	358	CGASV-300-A.....	348	CGC-100-PP.....	350	CGD-050-SS1.....	352	CGE-100CR-SS1...	400

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
CGE-100-PP.....	351	CGF-200-A1.....	347	CNG-600-S.....	360	CPHL-20.....	432	CSL-10112-SS304..	414	CSL-30313-SP.....	412
CGE-100-SS1.....	353	CGF-200-B1.....	356	CNG-600-SP.....	360	CPHL-24.....	432	CSL-13113S-SP.....	410	CSL-30313-SS304	415
CGE-125-A1.....	347	CGF-200-PP.....	351	CNG-800CS-S.....	401	CPHL-26.....	432	CSL-13113S-SS304415		CSL-30313S-SP.....	412
CGE-125-B1.....	356	CGF-200-SS1.....	353	CNG-800CS-SP.....	401	CPHL-28.....	432	CSL-13114-SS304..	415	CSL-30314-A.....	409
CGE-125-PP.....	351	CGF-2030-A.....	349	CNL-200CR-SP.....	401	CPHL-32.....	432	CSL-13114S-SP.....	410	CSL-30314-SP.....	412
CGE-125-SS1.....	353	CGF-250-A1.....	347	CNL-250CR-SP.....	401	CPHLS-04.....	432	CSL-15112-SP.....	411	CSL-30314-SS304	415
CGE-150-A1.....	347	CGF-250-B1.....	356	CNL-300CR-SP.....	401	CPHLS-05.....	432	CSL-15115-SP.....	411	CSL-30314S-SP.....	412
CGE-150-B1.....	356	CGF-250-SS1.....	353	CNL-400CR-SP.....	401	CPHLS-06.....	432	CSL-15200-SP.....	411	CSL-30315-A.....	409
CGE-150CR-A1.....	400	CGF-300-A1.....	347	CNSC-300CR-SP..	402	CPHLS-07.....	432	CSL-15201-SP.....	411	CSL-30400-SP.....	412
CGE-150CR-SS1....	400	CGF-300-B1.....	356	CNSC-400CR-SP..	402	CPHLS-08.....	432	CSL-15201-SS304..	415	CSL-40406-SP.....	413
CGE-150-PP.....	351	CGF-300-PP.....	351	CNT-100CR-SP.....	401	CPHLS-09.....	432	CSL-15202-SP.....	411	CSL-40408-SP.....	413
CGE-150-SS1.....	353	CGF-300-SS1.....	353	CNT-100CR-SS316	401	CPHLS-10.....	432	CSL-15202S-SP.....	411	CSL-40409-SP.....	413
CGE-200-A1.....	347	CGF-3015-A.....	349	CNT-1200-S.....	359	CPHLS-11.....	432	CSL-15203-SP.....	411	CSL-40410-SP.....	413
CGE-200-B1.....	356	CGF-3020-A.....	349	CNT-1200-SP.....	359	CPHLS-12.....	432	CSL-15204-SP.....	411	CSL-40410S-SP.....	413
CGE-200CR-A1.....	400	CGF-3040-A.....	349	CNT-125CR-SP.....	401	CPHLS-14.....	432	CSL-15205-SP.....	411	CSL-40411-A.....	409
CGE-200CR-SS1....	400	CGF-400-A1.....	347	CNT-125CR-SS316	401	CPHLS-16.....	432	CSL-15206-SP.....	411	CSL-40411-SP.....	413
CGE-200-PP.....	351	CGF-400-B1.....	356	CNT-150CR-SP.....	401	CPHLS-18.....	432	CSL-20204-SP.....	411	CSL-40411S-SP.....	413
CGE-200-SS1.....	353	CGF-400-PP.....	351	CNT-150CR-SS316	401	CPHLS-20.....	432	CSL-20206-SP.....	411	CSL-40412-A.....	409
CGE-250-A1.....	347	CGF-400-SS1.....	353	CNT-200CR-SP.....	401	CPHLS-24.....	432	CSL-20206-SS304415		CSL-40412-SP.....	413
CGE-250-B1.....	356	CGF-4030-A.....	349	CNT-200CR-SS316	401	CPHLS-28.....	432	CSL-20206S-SP....	411	CSL-40412S-SP.....	413
CGE-250CR-A1.....	400	CGF-4060-A.....	349	SS316.....	401	CPHLS-32.....	432	CSL-20207-SP.....	411	CSL-40413-A.....	409
CGE-250-SS1.....	353	CGF-500-A1.....	347	CNT-250CR-SP.....	401	CRPVC-019.....	374	CSL-20207-SS304	415	CSL-40413-SP.....	413
CGE-300-A1.....	347	CGF-500-B1.....	356	CNT-250CR-SS316	401	CRPVC-025.....	374	CSL-20207S-SP.....	411	CSL-40413S-SP.....	413
CGE-300-B1.....	356	CGF-500-SS1.....	353	SS316.....	401	CRPVC-025-100...	374	CSL-20208-SP.....	411	CSL-40414-A.....	409
CGE-300CR-A1.....	400	CGF-600-A1.....	347	CNT-300CR-SP.....	401	CRPVC-031.....	374	CSL-20208-SS304415		CSL-40414-SP.....	413
CGE-300CR-SS1....	400	CGF-600-B1.....	356	CNT-300CR-SS316	401	CRPVC-031-100....	374	CSL-20209-A.....	409	CSL-40414S-SP.....	413
CGE-300-PP.....	351	CGF-600-SS1.....	353	SS316.....	401	CRPVC-038.....	374	CSL-20209-SP.....	411	CSL-40415-SP.....	413
CGE-300-SS1.....	353	CGF-800-A1.....	347	CNT-400-B.....	360	CRPVC-038-100....	374	CSL-20209-SS304415		CSL-40500-SP.....	413
CGE-400-A1.....	347	CGF-800-SS1.....	353	CNT-400CR-SP.....	401	CRPVC-050.....	374	CSL-20209S-SP....	411	CSL-40500S-SP....	413
CGE-400-B1.....	356	CNFL-200CR-S..	402	CNT-400CR-SS316	401	CRPVC-050-100....	374	CSL-20210-A.....	409	CSL-60604-SP..	413
CGE-400CR-A1.....	400	CNFL-200CR-SS316	402	CNT-400CR-SS316	401	CRPVC-063.....	374	CSL-20210-SP.....	411	CSL-60606-SP..	413
CGE-400CR-SS1....	400	CNFL-300CR-S.....	402	CNT-400CS-S.....	401	CRPVC-063-100....	374	CSL-20210-SS304	415	CSL-60608-SP..	413
CGE-400-PP.....	351	CNFL-300CR-SS316	402	CNT-400CS-SP.....	401	CRPVC-075.....	374	CSL-20210S-SP.....	411	CSL-60610-SP...	413
CGE-400-SS1.....	353	CNFL-400CR-S.....	402	CNT-600CR-SP.....	401	CRPVC-075-100....	374	CSL-20211-A.....	409	CSL-60612-SP...	413
CGE-500-A1.....	347	SS316.....	402	CNT-600CR-SS316	401	CRPVC-100.....	374	CSL-20211-SP.....	411	CSL-60614-SP...	413
CGE-500-B1.....	356	CNFL-400CR-SS316	402	SS316.....	401	CRPVC-100-100....	374	CSL-20211-SS304..	415	CSL-60700-SP..	413
CGE-500-SS1.....	353	CNFL-400CR-SS316	402	CNT-600CS-S.....	401	CRPVC-125.....	374	CSL-20211S-SP.....	411	CSL-60702-SP...	413
CGE-600-A1.....	347	SS316.....	402	CNT-600CS-SP.....	401	CRPVC-150.....	374	CSL-20212-SP.....	411	CSL-60704-SP..	413
CGE-600-B1.....	356	CNFL-600CR-S.....	402	CNT-600-S.....	359	CRPVC-200.....	374	CSL-20212-SS304	415	CSL-80812-SP...	413
CGE-600CR-A1.....	400	CNFL-600CR-SS316	402	CNT-800CS-S.....	401	CSL-05100S-SP.....	410	CSL-20212-SP.....	411	CSL-80900-SP..	413
CGE-600-SS1.....	353	SS316.....	402	CNT-800CS-SP.....	401	SS304.....	414	CSL-20214-SS304	415	CSL-80904-SP..	413
CGE-800-A1.....	347	CNFL-150-SP.....	360	CNTB-200CR-S.....	402	CSL-08102S-SP.....	410	CSL-20214-SS304	415	CSL-80908-SP..	413
CGE-800CS-A1.....	400	CNFL-400CR-SS316	402	CNTB-200CR-SS316	402	CSL-08104S-SS304	414	CSL-20215-SP.....	411	DA-1510-A.....	349
CGE-800-SS1.....	353	SS316.....	402	CNTB-300CR-S.....	402	CSL-100108-SP.....	414	CSL-20300-SP.....	411	DA-1520-A.....	349
CGF-050-A1.....	347	CNFL-200-S.....	360	CNTB-300CR-SS316	402	CSL-100108S-SP.....	414	CSL-25302-SP.....	412	DA-2015-A.....	349
CGF-050-B1.....	356	CNFL-200-SP.....	360	SS316.....	402	CSL-100114-SP.....	414	CSL-25306-SP.....	412	DA-2030-A.....	349
CGF-050-PP.....	351	CNFL-250CR-SS316	402	CNTB-400CR-S.....	402	CSL-10107-SP.....	410	CSL-30304-SP.....	412	DA-2030-SS.....	354
CGF-050-SS1.....	353	SS316.....	402	CNTB-400CR-SS316	402	CSL-10107S-SP.....	410	CSL-30306-SP.....	412	DA-2040-A.....	349
CGF-075-A1.....	347	CNFL-250-SP.....	360	CNTB-600CR-S.....	402	CSL-10108-SP.....	410	CSL-30306S-SP....	412	DA-3015-A.....	349
CGF-075-B1.....	356	CNFL-300CR-SP....	402	CNTB-600CR-SS316	402	CSL-10108S-SS304..	414	CSL-30307-SP.....	412	DA-3020-A.....	349
CGF-075-PP.....	351	SS316.....	402	SS316.....	402	CSL-10108S-SS304..	414	CSL-30308-SP.....	412	DA-3020-SS.....	354
CGF-075-SS1.....	353	CNFL-300CR-SS316	402	CNTB-600CR-SS316	402	CSL-10109-SP.....	410	CSL-30308S-SP....	412	DA-3040-A.....	349
CGF-1000-A.....	347	CNFL-400CR-SS316	402	SS316.....	402	CSL-10109S-SP.....	410	CSL-30309-SP.....	412	DA-3040-SS.....	354
CGF-100-A1.....	347	CNFL-400CR-SS316	402	CPHL-03.....	432	SS304.....	414	CSL-30309-SS304415		DA-4020-A.....	349
CGF-100-B1.....	356	CNFL-400CR-SS316	402	CPHL-04.....	432	CSL-10109S-SS304..	414	CSL-30309S-SP....	412	DA-4020-A.....	349
CGF-100-PP.....	351	CNFL-400CR-SS316	402	CPHL-05.....	432	CSL-10110-SP.....	410	CSL-30310-A.....	409	DA-4030-A.....	349
CGF-100-SS1.....	353	CNFL-400CR-SS316	402	CPHL-06.....	432	CSL-10110S-SS304..	414	CSL-30310-A.....	409	DA-4030-SS.....	354
CGF-125-A1.....	347	CNFL-400CR-SS316	402	CPHL-07.....	432	CSL-10111-SP.....	410	CSL-30310-SP.....	412	DA-4060-A.....	349
CGF-125-B1.....	356	CNFL-400CR-SS316	402	CPHL-08.....	432	CSL-10111S-SS304..	414	CSL-30310-SS304	415	DA-6040-A.....	349
CGF-125-PP.....	351	CNFL-400CR-SS316	402	CPHL-09.....	432	CSL-10111S-SS304..	414	CSL-30310S-SP....	412	DA-6040-SS.....	354
CGF-125-SS1.....	353	CNFL-400CR-SS316	402	CPHL-10.....	432	CSL-10111S-SS304..	414	CSL-30311-SP.....	412	DBC-1125-DP....	427
CGF-150-A1.....	347	CNFL-400CR-SS316	402	CPHL-11.....	432	CSL-10111S-SS304..	414	CSL-30311S-SS304..	415	DBC-1275-DP....	427
CGF-150-B1.....	356	CNFL-400CR-SS316	402	CPHL-12.....	432	CSL-10111S-SS304..	414	CSL-30311S-SS304..	415	DBC-1360-DP....	427
CGF-150-PP.....	351	CNFL-400CR-SS316	402	CPHL-14.....	432	CSL-10111S-SS304..	414	CSL-30312-SP.....	412	DBC-400-DP.....	427
CGF-150-SS1.....	353	CNFL-400CR-SS316	402	CPHL-16.....	432	CSL-10111S-SS304..	414	CSL-30312-SS304	415	DBC-40-DP.....	427
CGF-1520-A.....	349	CNFL-400CR-SS316	402	CPHL-18.....	432	CSL-10111S-SS304..	414	CSL-30312S-SP....	412	DBC-431-DP....	427
		CNFL-400CR-SS316	402			CSL-10112-SP.....	410	CSL-30313-A.....	409	DBC-463-DP....	427

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
DBC-525-DP.....	427	DX252550.....	445	FF14M.....	532	FS6400O128.....	526	FSO24042020....	524	GE2112TNPT.....	222
DBC-550-DP.....	427	DX252560.....	445	FF1M.....	532	FS6400O1612....	526	FSO24042424....	524	GE2114TNPT.....	222
DBC-600-DP.....	427	DX254030.....	445	FF3416F.....	532	FS6400O1616....	526	FSO240444.....	524	GE212NPT.....	222
DBC-60-DP.....	427	DX254040.....	445	FF3416M.....	532	FS6400O1620....	526	FSO240446.....	524	GE212SAE.....	222
DBC-639-DP.....	427	DX254050.....	445	FF34F.....	532	FS6400O2020...	526	FSO240464.....	524	GE214NPT.....	222
DBC-675-DP.....	427	DX254060.....	445	FF34M.....	532	FS6400O2024....	526	FSO240466.....	524	GE216SAE.....	222
DBC-769-DP.....	427	DX256500.....	445	FF3812F.....	532	FS6400O2424....	526	FSO240484.....	524	GE21NPT.....	222
DBC-76-DP.....	427	DX259520.....	445	FF3812M.....	532	FS6400O44.....	526	FSO240486.....	524	GE234NPT.....	222
DBC-818-DP.....	427	DX259530.....	445	FF38F.....	532	FS6400O46.....	526	FSO240488.....	524	GE238NPT.....	222
DBC-875-DP.....	427	DX259540.....	445	FF38M.....	532	FS6400O64.....	526	FSO2406106....	524	GE3L04SAE.....	222
DBC-94-DP.....	427	DX259550.....	445	FHE-075-MP.....	400	FS6400O66.....	526	FSO2406108....	524	GE3L06SAE.....	222
DBC-988-DP.....	427	DX259560.....	445	FLDROP-200.....	387	FS6400O68.....	526	FSO2406126....	524	GE3L08SAE.....	222
DD-1515-A.....	349	DX259570.....	445	FLDROP-400.....	387	FS6400O810....	526	FSO240664.....	524	GE3L112TNPT...	222
DD-1515-SS.....	354	DX35TR25.....	446	FLX-075.....	381	FS6400O86.....	526	FSO240684.....	524	GE3L114TNPT...	222
DD-2020-A.....	349	DX35TR38.....	446	FLX-100.....	381	FS6400O88.....	526	FSO240810.....	525	GE3L12NPT.....	222
DD-2020-SS.....	354	DX4324.....	447	FLX-150.....	381	FS64021010.....	525	FSO240812.....	525	GE3L12SAE.....	222
DD-2030-A.....	349	DX4336.....	447	FLX-200.....	381	FS64021212....	525	FSO240816.....	525	GE3L14NPT.....	222
DD-2030-SS.....	354	DX4424.....	447	FLX-300.....	381	FS640244.....	525	FSO240820.....	525	GE3L16SAE.....	222
DD-3030-A.....	349	DX4436.....	447	FLX-400.....	381	FS640266.....	525	FSO240824.....	525	GE3L1NPT.....	222
DD-3030-SS.....	354	DX4524VG.....	447	FLXS-100.....	381	FS640288.....	525	FSO24084.....	525	GE3L34NPT.....	222
DD-3040-A.....	349	DX4536VG.....	447	FLXS-200.....	381	FS65001212....	526	FSO24086.....	525	GE3L38NPT.....	222
DD-3040-SS.....	354	DX5005.....	447	FLXS-300.....	381	FS650044.....	526	FSO24088.....	525	GJF-050-SP.....	363
DD-4040-A.....	349	DX5006.....	447	FLXS-400.....	381	FS650066.....	526	FSO304C10.....	524	GJF-075-DP.....	363
DD-4040-SS.....	354	DX5022.....	447	FN-075.....	365	FS650088.....	526	FSO304C12.....	524	GJF-100-DP.....	363
DURFL-200.....	391	DX5090.....	447	FN-075G.....	365	FS65041010....	526	FSO304C16.....	524	GJF-125-DP.....	363
DURFL-200-		DX5190.....	447	FN-075R.....	365	FS65041616....	526	FSO304C20.....	524	GJF-150-DP.....	363
CASSP.....	391	DX5197.....	447	FN-100.....	365	FS650444.....	526	FSO304C24.....	524	GJF-200-DP.....	363
DURFL-300.....	391	DX60021.....	446	FN-150.....	365	FS650466.....	526	FSO304C4.....	524	GJF-300-DP.....	363
DURFL-300-		DX60021V.....	446	FN-200.....	365	FS650488.....	526	FSO304C6.....	524	GJM-050CR-SP	400
CASSP.....	391	DX60022.....	446	FRAC400-300...	385	FS68011012....	526	FSO304C8.....	524	GJM-050-SP.....	364
DURFL-400.....	391	DX60022V.....	446	FRAC400-400...	385	FS6801108.....	526	FSO30612.....	524	GJM-075CR-SP.	400
DURFL-400-		DX60023.....	446	FRAC400-600...	385	FS68011210....	526	FSO30616.....	524	GJM-075-SP.....	364
CASSP.....	391	DX60023V.....	446	FS25001010....	525	FS68011212....	526	FSO3064.....	524	GJM-100CR-SP.	400
DURFL-600.....	391	DX60092.....	446	FS25001212....	525	FS68011216....	526	FSO3066.....	524	GJM-100-SP.....	364
DURFL-600-		DX722530.....	446	FS25001616....	525	FS68011616....	526	FSO3068.....	524	GJM-125CR-SP..	400
CASSP.....	391	DX722540.....	446	FS250044.....	525	FS68011620....	526	FSO31810.....	523	GJM-125-DP.....	364
DX140030MG....	445	DX722550.....	446	FS250066.....	525	FS68012016....	526	FSO31812.....	523	GJM-150CR-SP.	400
DX140040MG....	445	DX722560.....	446	FS2501012.....	525	FS68012020....	526	FSO31816.....	523	GJM-150-DP.....	364
DX140050MG....	445	DX723230.....	446	FS2501108.....	525	FS68012424....	526	FSO31820.....	523	GJM-200CR-SP.	400
DX140060MG....	445	DX723240.....	446	FS25011212....	525	FS680144.....	526	FSO31824.....	523	GJM-200-DP.....	364
DX140070MG....	445	DX723250.....	446	FS25011216....	525	FS680146.....	526	FSO31824.....	523	GJM-250CR-SP.	400
DX141530MG....	445	DX723260.....	446	FS2501128.....	525	FS680164.....	526	FSO3184.....	523	GJM-250CR-SP.	400
DX141540MG....	445	DX724030.....	446	FS25011616....	525	FS680166.....	526	FSO3186.....	523	GJM-300CR-SP	400
DX141550MG....	445	DX724040.....	446	FS25012020....	525	FS680168.....	526	FSO3188.....	523	GJM-400CR-SP	400
DX141560MG....	445	DX724050.....	446	FS25012424....	525	FS680168.....	526	FSO31910.....	524	GJN-050-DP.....	363
DX141570MG....	445	DX724060.....	446	FS250144.....	525	FS6801810.....	526	FSO31912.....	524	GJN-075-DP.....	363
DX142530MG....	445	DX725030.....	446	FS250164.....	525	FS680186.....	526	FSO31916.....	524	GJN-125-DP.....	363
DX142540MG....	445	DX725040.....	446	FS250166.....	525	FS680188.....	526	FSO3192.....	524	GJN-150-DP.....	363
DX142550MG....	445	DX725050.....	446	FS250182.....	525	FS68021010....	526	FSO3194.....	524	GJN-200-DP.....	363
DX142560MG....	445	DX725060.....	446	FS250186.....	525	FS68021212....	526	FSO3196.....	524	GJN-300-DP.....	363
DX142570MG....	445	EPDM-150.....	380	FS250186.....	525	FS68021616....	526	FSO3198.....	524	GJS-050CR-SP..	400
DX144030MG....	445	EPDM-200.....	380	FS250188.....	525	FS68022020....	526	FUEL-025.....	378	GJS-050-SP.....	363
DX144040MG....	445	EPDM-300.....	380	FS25031212....	525	FS680244.....	526	FUEL-031.....	378	GJS-075CR-SP..	400
DX144050MG....	445	EPDM-400.....	380	FS25031616....	525	FS680266.....	526	FUEL-038.....	378	GJS-075-DP.....	363
DX144060MG....	445	F100.....	433	FS250344.....	525	FS680288.....	526	FV-200-DP.....	365	GJS-100CR-SP...	400
DX144070MG....	445	F38.....	433	FS250366.....	525	FS68091212....	527	FV-300-DP.....	365	GJS-100-DP.....	363
DX250030.....	445	F40.....	433	FS250388.....	525	FS680944.....	527	FV-400-DP.....	365	GJS-125CR-SP...	400
DX250040.....	445	FE-025-SP.....	362	FS26031212....	525	FS680966.....	527	FV-600-DP.....	365	GJS-125-DP.....	363
DX250050.....	445	FE-125-SP.....	362	FS260344.....	525	FS680988.....	527	GB220TSAE+ ...	222	GJS-150CR-SP...	400
DX250060.....	445	FE-150-SP.....	362	FS260366.....	525	FSO24031212....	524	GB224TSAE+ ...	222	GJS-150-DP.....	363
DX251530.....	445	FE-200-SP.....	362	FS260388.....	525	FSO24031616....	524	GB3L20TSAE+..	222	GJS-200CR-SP..	400
DX251540.....	445	FF1234F.....	532	FS6400O1010....	526	FSO240344.....	524	GB3L24TSAE+..	222	GJS-200-DP.....	363
DX251550.....	445	FF1234M.....	532	FS6400O1012....	526	FSO240366.....	524	GDS-050-B.....	363	GJS-250CR-SP..	400
DX251560.....	445	FF12F.....	532	FS6400O108.....	526	FSO240388.....	524	GDS-075-B.....	363	GJS-300CR-SP..	400
DX252530.....	445	FF12M.....	532	FS6400O1210....	526	FSO2404108....	524	GE204SAE.....	222	GJS-400CR-SP..	400
DX252540.....	445	FF14F.....	532	FS6400O1212....	526	FSO24041212....	524	GE206SAE.....	222	GPE-025-300....	376
				FS6400O1216....	526	FSO24041616....	524	GE208SAE.....	222	GPE-038-300....	376



NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
GPE-050-300.....	376	HN-125-B .....	366	LSQVEP1PF .....	532	M8-92 .....	424	MMFC6NPT .....	534	R88DB-16-DP ....	427
GPE-063-300.....	376	HN-150-B .....	366	LSQVEP1SF .....	532	M8-98 .....	424	MMFC8NPT .....	534	R88DB-20-DP ....	427
GPE-075-300 .....	376	HN-200-B .....	366	LSQVEP20PF.....	532	M8S-104.....	424	MMNV12NPT .....	534	R88DB-24-DP ....	427
GPE-100-300 ....	376	HN-250-B.....	366	LSQVEP20SF.....	532	M8S-113.....	424	MMNV16NPT .....	534	R88DB-32-DP ....	427
GT15.....	471	HNC-04-02-SP. 364		LSQVEP24PF.....	532	M8S-122.....	424	MMNV4NPT.....	534	RSPVC -200.....	396
GT30.....	471	HNC-04-04-SP. 364		LSQVEP24SF.....	532	M8S-131.....	424	MMNV6NPT.....	534	RSPVC-300.....	396
GT60.....	471	HNC-06-04-SP. 364		LSQVEP34PF.....	532	M8S-140.....	424	MMNV8NPT.....	534	RSPVC-400.....	396
HAM100-1000-		HNC-06-06-SP. 364		LSQVEP34SF.....	532	M8S-149.....	424	MXH-238.....	377	RSPVC-600.....	396
SET.....	322	HNC-08-06-SP. 364		M10-131.....	424	M8S-162.....	424	MXH-250.....	377	SA-100-A.....	348
HAM100-200-		HNC-08-08-SP. 364		M10-140.....	424	M8S-44.....	424	MXH-300.....	377	SA-100-SS .....	354
SET.....	322	HNC-12-08-SP .. 364		M10-149.....	424	M8S-48.....	424	MXH-350.....	377	SA-150-A.....	348
HAM100-300-		HNC-16-12-SP ... 364		M10-162.....	424	M8S-52.....	424	MXH-400.....	377	SA-150-SS .....	354
SET.....	322	HNV12F.....	531	M10-175.....	424	M8S-56.....	424	MXH-500.....	377	SA-1520-SS .....	354
HAM100-400CR-		HNV12FB.....	531	M10-188.....	424	M8S-60.....	424	NV12F.....	533	SA-200-A.....	348
SET.....	322	HNV12M.....	531	M10-201.....	424	M8S-64.....	424	NV12M.....	533	SA-200-SS.....	354
HAM100-400-		HNV12MB .....	531	M10-214.....	424	M8S-68.....	424	NV14F .....	533	SA-2030-A.....	348
SET.....	322	HNV14F.....	531	M10-227.....	424	M8S-74.....	424	NV14M.....	533	SA-2030-SS.....	354
HAM100-600CR-		HNV14FB.....	531	M10-240.....	424	M8S-80.....	424	NV1F.....	533	SA-250-A.....	348
SET.....	322	HNV14M.....	531	M10DC-104.....	428	M8S-86.....	424	NV1M.....	533	SA-300-A.....	348
HAM100-600-		HNV14MB .....	531	M10DC-113.....	428	M8S-92.....	424	NV34F.....	533	SA-300-SS .....	354
SET.....	322	HNV34F.....	531	M10DC-122.....	428	M8S-98.....	424	NV34M.....	533	SA-3040-A .....	348
HAM100-800-		HNV34FB.....	531	M10DC-131.....	428	MB4004.....	535	NV38F.....	533	SA-3040-SS.....	354
SET.....	322	HNV34M.....	531	M10DC-140.....	428	MB4006.....	535	NV38M.....	533	SA-400-A.....	348
HAM200-100-		HNV34MB .....	531	M10DC-149.....	428	MB4008.....	535	OETP-1098 .....	433	SA-400-SS .....	354
SET.....	322	HNV38F.....	531	M10DC-162.....	428	MB4012.....	535	OILVC-200.....	384	SAE# 060101BA 77	
HAM200-200-		HNV38FB.....	531	M10DC-175.....	428	MB4016.....	535	OILVC-300 .....	384	SAE# 060110.....	77
SET.....	322	HNV38M.....	531	M10DC-188.....	428	ME-025-SP.....	362	OILVC-400 .....	384	SAE# 060115.....	77
HAM200-300-		HNV38MB .....	531	M10DC-200.....	428	MFC12N.....	535	OILVS-150.....	383	SAT-200 .....	394
SET.....	322	HPCWB-150 .....	392	M10DC-220.....	428	MFC34N.....	535	OILVS-200.....	383	SAT-300 .....	394
HAM200-400-		HPCWB-200.....	392	M10DC-240.....	428	MFC38N.....	535	OILVS-300.....	383	SAT-400 .....	394
SET.....	322	HPCWB200-150 392		M10DC-260.....	428	MKL-019-SP .....	423	OILVS-400.....	383	SAT-600 .....	394
HAM200-500-		HPCWB200-400		M10DC-280.....	428	MKL-022-SP.....	423	OILVS-600.....	383	SATG-075.....	393
SET.....	322	392		M10DC-300.....	428	MKL-025-SP.....	423	P1.....	433	SATG-100 .....	393
HAM206-200-		HPCWB250-200		M10DC-325.....	428	MKL-028-SP .....	423	P-300.....	433	SATG-125.....	393
SET.....	322	392		M10DC-350.....	428	MKL-031-SP .....	423	PDB250-200.....	386	SATG-150 .....	393
HAM206-300-		HPCWB250-300		M10DC-375.....	428	MKL-035-SP .....	423	PDB250-300.....	386	SATG-200.....	393
SET.....	322	392		M10DC-400.....	428	MKL-039-SP .....	423	PDB250-400.....	386	SATG-250.....	393
HAM206-400CR-		HPCWB-300 .....	392	M10DC-425.....	428	MKL-043-SP .....	423	PDB250-600.....	386	SATG-300 .....	393
SET.....	322	HPCWB-400 .....	392	M10DC-450.....	428	MKL-047-SP .....	423	PDR-125.....	385	SATG-400 .....	393
HAM206-400-		HPCWB-600 .....	392	M10DC-86 .....	428	MKL-051-SP .....	423	PDR-150.....	385	SATO-200 .....	393
SET.....	322	HSK2-200-SS.....	357	M10DC-92.....	428	MKL-055-SP .....	423	PDR-300.....	385	SATO-300 .....	393
HAM206-500-		HSK2-300-SS ....	357	M6-23.....	423	MKL-059-SP .....	423	PDR-400.....	385	SATO-400 .....	393
SET.....	322	HSK5-200-SS ....	357	M6-26.....	423	MKL-063-SP .....	423	PDR-600.....	385	SATW-100 .....	394
HAM206-600-		HSK5-200-SS ....	357	M6-29.....	423	MKL-067-SP .....	423	PF-150-AD.....	364	SATW-125 .....	394
SET.....	322	HSK5-300-SS ....	357	M6-32 .....	423	MKL-073-SP.....	423	PF-200-AD .....	364	SATW-150 .....	394
HAM206-800-		HSK5-300-SS ....	357	M6-36 .....	423	MKL-079-SP.....	423	PF-300-AD .....	364	SATW-200 .....	394
SET.....	322	HTA-300 .....	386	M6-40 .....	423	MKL-085-SP .....	423	PF-400-AD .....	364	SATW-300 .....	394
HE-050CF-SP ....	400	HTA-400 .....	386	M6S-23.....	423	MKL-091-SP .....	423	PF-600-AD .....	364	SATW-400 .....	394
HE-075CF-SP ....	400	IVB-800-		M6S-26.....	423	MKL-097-SP .....	423	PL-150-AD .....	364	SATW-600 .....	394
HE-075CR-SP ....	400	250RPG2.....	379	M6S-29.....	423	MKL-103-SP .....	423	PL-200-AD .....	364	SB-200-SP.....	365
HE-100CF-SP ....	400	IVB-800-		M6S-32 .....	423	MKL-112-SP.....	423	PL-300-AD .....	364	SB-300-SP .....	365
HE-100CR-SP ....	400	250RPG3.....	379	M6S-36 .....	423	MKL-121-SP .....	423	PL-400-AD .....	364	SBB-075-100 .....	380
HE-101CF-SP.....	400	IVB-800-		M6S-40 .....	423	MKL-130-SP .....	423	PM-150-A.....	364	SBB-075-50 .....	380
HE-125-SP .....	362	250RPG7 .....	379	M8-104 .....	424	MKL-139-SP .....	423	PM-200-A .....	364	SBB-125-100S....	380
HE-150-SP .....	362	JACK-075-50 .....	375	M8-113.....	424	MKL-148-SP .....	423	PM-300-A .....	364	SBB-125-50S....	380
HE-200-SP .....	362	JACK-075BL-50 375		M8-122.....	424	MKL-161-SP .....	423	PON-025-B .....	377	SBB-150-50.....	380
HM-063-S.....	361	JACK-075-CU-		M8-44 .....	424	MKL-174-SP .....	423	PON-038-B .....	377	SBB-300.....	380
HM-063-SP.....	361	ASSP .....	375	M8-48 .....	424	MKL-187-SP .....	423	PON-050-B .....	377	SC-1000R-SP ....	428
HM-300-S.....	361	JACK-075G-50... 375		M8-52 .....	424	MKL-200-SP .....	423	PON-063-B .....	377	SC-1200R-SP ....	428
HM-400-S.....	361	JACK-075R-50 ... 375		M8-56 .....	424	MKL-213-SP .....	423	PON-075-B.....	377	SC-200R-SP .....	428
HM-600-S.....	361	KZEB14PF.....	533	M8-60 .....	424	MKL-226-SP .....	423	PREM-125-250 .. 376		SC-250R-SP .....	428
HM-600-SP.....	361	KZEB14SM.....	533	M8-64 .....	424	MKL-239-SP .....	423	PREMR-038-300... 376		SC-300R-SP .....	428
HM-800-S.....	361	KZEB38PF.....	533	M8-68 .....	424	MMFC12NPT.....	534	PREMR-050-300... 376		SC-400R-SP .....	428
HM-800-SP.....	361	KZEB38SM .....	533	M8-74.....	424	MMFC16NPT.....	534	PREMR-075-300... 376		SC-500R-SP .....	428
HN-075-B.....	366	LSQVEP12PF.....	532	M8-80.....	424	MMFC20NPT.....	534	PREMR-100-300... 376		SC-600R-SP .....	428
HN-100-B.....	366	LSQVEP12SF.....	532	M8-86.....	424	MMFC4NPT .....	534	R88DB-12-DP.....	427	SC-800R-SP.....	428

NUMERICAL INDEX

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
SCR-300-SS304365		SS2406-12-06	546	08FJ90	555	SS5406-		SS6402-12-12	552	TLBS300-200	384
SCR-400-SS304365		SS2406-12-08	546	SS43-08-08MP	555	HHP-06	549	SS6402-16-16	552	TLBS300-300	384
SG300	358	SS2406-16-04	546	SS43-08-10FJ	555	SS5406-		SS6405-04-04	552	TLBS300-400	384
SG400	358	SS2406-16-06	546	SS43-10-08MP	555	HHP-08	549	SS6405-06-04	552	TLBS300-600	384
SL-200-SP	365	SS2406-16-08	546	SS43-12-12FJ90	555	SS5406-HHP-12	549	SS6405-06-06	552	TPT-1	433
SL-300-SP	365	SS2406-16-12	546	SS43-12-12MP	555	SS5406-HHP-16	549	SS6405-08-08	552	TTD150-200	382
SR-200-SP	365	SS2408-04	546	SS43-16-16FJ90	555	SS5406-P-04	549	SS6405-12-08	552	TTD150-300	382
SR-250-SP	365	SS2408-06	546	SS43-16-16MP	555	SS5406-P-06	549	SS6405-12-12	552	TTD150-400	382
SR-300-SP	365	SS2408-08	546	SS5000-02-02	548	SS5406-P-08	549	SS6405-16-16	552	VG100	358
SR-400-SP	365	SS2408-10	546	SS5000-04-04	548	SS5406-P-12	549	SS6408-04	553	VG150	358
SR-600-SP	365	SS2408-12	546	SS5000-06-04	548	SS5406-P-16	549	SS6408-06	553	VG200	358
SR-800-SP	365	SS2408-16	546	SS5000-06-06	548	SS5500-02-02	550	SS6408-08	553	VG250	358
SS1404-04-04	543	SS2700-04-04	547	SS5000-08-06	548	SS5500-04-04	550	SS6408-10	553	VG300	358
SS1404-06-06	543	SS2700-06-06	547	SS5000-08-08	548	SS5500-06-06	550	SS6408-12	553	WHIP-L	365
SS1404-08-08	543	SS2700-08-08	547	SS5000-12-12	548	SS5500-08-08	550	SS6408-16	553	WHIP-S	365
SS1404-12-12	543	SS2700-12-12	547	SS5000-16-08	548	SS5500-12-12	550	SS6408-HH-02	553	WSB-125	395
SS1404-16-16	543	SS2700-16-16	547	SS5000-16-12	548	SS5500-16-16	550	SS6408-HH-04	553	WSB-150	395
SS1405-04-04	543	SS2705-04-04	547	SS5000-16-16	548	SS5502-02-02	550	SS6408-HH-06	553	WSB-200	395
SS1405-06-06	543	SS2705-06-06	547	SS5404-02-02	548	SS5502-04-04	550	SS6408-HH-08	553	WSB-300	395
SS1405-08-08	543	SS2705-08-08	547	SS5404-04-02	548	SS5502-06-06	550	SS6408-HH-10	553	WSB-400	395
SS1405-12-12	543	SS2705-12-12	547	SS5404-04-04	548	SS5502-08-08	550	SS6408-HH-12	553	WSB-600	395
SS1405-16-16	543	SS2705-16-16	547	SS5404-06-04	548	SS5502-12-12	550	SS6408-HH-16	553		
SS2403-04-04	545	SS2707-04-04	547	SS5404-06-06	548	SS5502-16-16	550	SS6505-04-04	554		
SS2403-06-04	545	SS2707-06-06	547	SS5404-08-04	548	SS5504-02-02	551	SS6505-06-06	554		
SS2403-06-06	545	SS2707-08-08	547	SS5404-08-06	548	SS5504-04-04	551	SS6505-08-08	554		
SS2403-08-04	545	SS304-C-04	544	SS5404-08-08	548	SS5504-06-06	551	SS6505-12-12	554		
SS2403-08-06	545	SS304-C-06	544	SS5404-12-04	548	SS5504-08-08	551	SS6505-16-16	554		
SS2403-08-08	545	SS304-C-08	544	SS5404-12-06	548	SS5504-12-12	551	SS6506-04-04	554		
SS2403-10-08	545	SS304-C-10	544	SS5404-12-08	548	SS5504-16-16	551	SS6506-06-06	554		
SS2403-10-10	545	SS304-C-12	544	SS5404-12-12	548	SS5600-04-04-		SS6506-08-08	554		
SS2403-12-04	545	SS304-C-16	544	SS5404-16-08	548	04	551	SS6506-12-12	554		
SS2403-12-06	545	SS306-04	547	SS5404-16-12	548	SS5600-06-06-		SS6506-16-16	554		
SS2403-12-08	545	SS306-06	547	SS5404-16-16	548	06	551	SSBOPF-C	555		
SS2403-12-12	545	SS306-08	547	SS5405-02-02	549	SS5600-08-08-		SSBW-16-16API-			
SS2403-16-12	545	SS306-10	547	SS5405-02-04	549	08	551	C	555		
SS2403-16-16	545	SS306-12	547	SS5405-04-04	549	SS5600-12-12-12	551	SSCN-04	548		
SS2404-04-02	545	SS306-16	547	SS5405-04-06	549	SS5600-16-16-		SSCN-06	548		
SS2404-04-04	545	SS318-04	544	SS5405-04-08	549	16	551	SSCN-08	548		
SS2404-04-06	545	SS318-04	544	SS5405-06-06	549	SS5605-02-02-		SSCN-12	548		
SS2404-04-08	545	SS318-06	544	SS5405-06-08	549	02	551	SSCN-16	548		
SS2404-06-04	545	SS318-08	544	SS5405-06-12	549	SS5605-04-04-		ST250-075-100	388		
SS2404-06-06	545	SS318-10	544	SS5405-08-08	549	04	551	ST250-075-50	388		
SS2404-06-08	545	SS318-12	544	SS5405-08-12	549	SS5605-06-06-		ST250-100-100	388		
SS2404-08-04	545	SS318-16	544	SS5405-08-16	549	06	551	ST250-100-50	388		
SS2404-08-06	545	SS319-06	544	SS5405-12-12	549	SS5605-08-08-		ST250-200-100	388		
SS2404-08-08	545	SS319-08	544	SS5405-12-16	549	08	551	ST250-200-50	388		
SS2404-08-12	545	SS319-10	544	SS5405-16-16	549	SS5605-12-12-12	551	ST250-300	388		
SS2404-08-16	545	SS319-12	544	SS5406-04-02	549	SS5605-16-16-		ST250B-075-50	387		
SS2404-10-08	545	SS319-16	544	SS5406-06-04	549	16	551	ST250B-100-50	387		
SS2404-12-08	545	SS43-04-04FJ	555	SS5406-08-04	549	SS6400-04-04	552	ST250B-150-50	387		
SS2404-12-12	545	SS43-04-		SS5406-08-06	549	SS6400-04-06	552	ST250B-200-50	387		
SS2404-16-08	545	04FJ90	555	SS5406-12-04	549	SS6400-06-06	552	SUPER-200	395		
SS2404-16-12	545	SS43-04-04MP	555	SS5406-12-06	549	SS6400-06-08	552	TLB-075	383		
SS2404-16-16	545	SS43-04-06FJ	555	SS5406-12-08	549	SS6400-06-10	552	TLB-100	383		
SS2404-16-16	545	SS43-04-		SS5406-16-04	549	SS6400-08-06	552	TLB-125	383		
SS2405-04-04	546	06FJ90	555	SS5406-16-06	549	SS6400-08-08	552	TLB-150	383		
SS2405-06-04	546	SS43-04-06MP	555	SS5406-16-08	549	SS6400-08-10	552	TLB-200	383		
SS2405-06-06	546	SS43-06-04FJ	555	SS5406-16-12	549	SS6400-08-12	552	TLB-250	383		
SS2405-08-08	546	SS43-06-04MP	555	SS5406-20-12	549	SS6400-12-08	552	TLB-400	383		
SS2405-12-12	546	SS43-06-06FJ	555	SS5406-C-04	550	SS6400-12-12	552	TLB-600	383		
SS2405-16-16	546	SS43-06-		SS5406-C-06	550	SS6400-12-16	552	TLBS150-100	382		
SS2406-06-04	546	06FJ90	555	SS5406-C-08	550	SS6400-16-12	552	TLBS150-150	382		
SS2406-08-04	546	SS43-06-06MP	555	SS5406-C-12	550	SS6400-16-16	552	TLBS150-200	382		
SS2406-08-06	546	SS43-06-08FJ	555	SS5406-C-16	550	SS6402-04-04	552	TLBS150-300	382		
SS2406-10-08	546	SS43-08-08FJ	555	SS5406-		SS6402-06-06	552	TLBS150-400	382		
SS2406-12-04	546	SS43-08-		HHP-04	549	SS6402-08-08	552	TLBS150-600	382		